Proudman Oceanographic Laboratory

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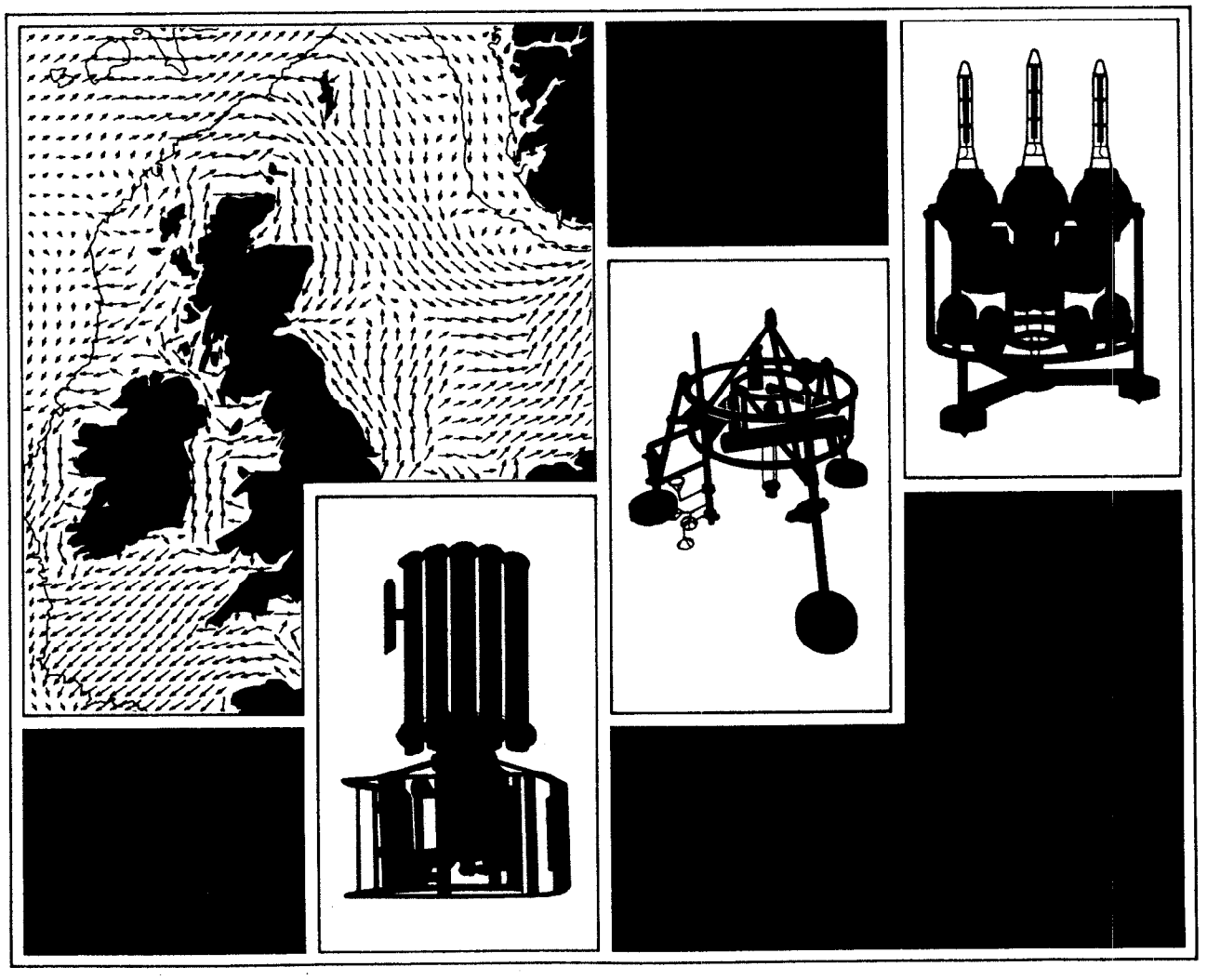
PJ Knight and RC Marsden

Report No. 35 1994



Natural Environment Research Council

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Current profile, pressure and temperature records from the North Channel of the Irish Sea from equipment deployed on RRS Challenger cruises C106 and C107

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DOCUMENT DATA SHEET

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PUBLICATION DATE **1994**

TITLE
Current profile, pressure and temperature records from the North Channel of the Irish Sea from equipment deployed on RRS Challenger cruises C106 and C107.

REFERENCE
Proudman Oceanographic Laboratory, Report No. 35, 141pp.

ABSTRACT

This report describes results from six sites in the North Channel of the Irish Sea where current meters, thermistor chains and water level recorders were deployed. Standard plots are shown as well as statistical output from the calibrated current meter records.

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KEYWORDS
CURRENT PROFILES CURRENT METER DATA CURRENT METER OBSERVATIONS TEMPERATURE ACOUSTIC DOPPLER CURRENT PROFILER (ADCP) NWEURIRI IRISH SEA NORTH CHANNEL

CONTRACT

PROJECT **MSH-41-2**

PRICE **£32**

Copies of this report are available from:
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DATA RESULTS

Site	*Rig No.*	*Meter No.*	
AB	00575	Chain 1682	36
		Logger 11	
EC	00579	Chain 1756	37/38
		Logger 07	
DB	00577	AA 3277	40
		S4 1831	
FA	00582	S4 1113	41/42
		AS 9959	48
		AS 9632	55
		AS 9631	62
EB1	00578	S4 1196	70/71
		S4 1112	76
EB2	00590	S4 1112	81/82
		S4 1119	87
		SA 6997	92
GB	00584	S4 1644	94/95
		S4 1119	100
DA	00576	DP 0009	105/106
GA	00583	DP 0007	119/120
HA	00585	RD 0394	121/122
HB	00586	WR 0445	138/139

1 INTRODUCTION

Between July 1993 and October 1994 an experiment was conducted to determine the volume flux through the North Channel of the Irish Sea, as part of a study of shelf edge and shelf sea exchange rates, contributing to the shelf edge (SES) and modelling (NORMS) components of the Land Ocean Interaction Study (LOIS) Community Research Programme. The experiment was founded on 15-month deployments of the OSCR HF radar system on the Mull of Galloway to measure surface currents over the width of the North Channel, an Acoustic Doppler Current Profiler (ADCP) and a water level recorder at 54° 46'N 5°24'W and tide gauges at Bangor and Portrush (both temporary) and at Port Ellen, Portpatrick and Port Erin. All these data will be documented in two separate reports.

To obtain more information on vertical and horizontal temperature and current gradients, moorings were deployed and recovered on RRS Challenger cruises C106, 18-28 September 1993 and C107, 26 October - 6 November 1993 (Howarth et al, 1994). This report describes the data obtained from these cruises; for two thermistor moorings at sites AB and EC, three surface current meter moorings at sites EB1, EB2 and GB, a U-Shaped current meter mooring at site DB, a pop up current meter mooring at site FA and four bottom mounted moorings at sites DA, GA, HA and HB (see Figure 1 for map of mooring positions). Not included in the report are data from a waverider (lost) and a meterological buoy at site E.

AB and EC moorings each consisted of an Aanderaa thermistor chain with a Sea Data Corporation logger (ST). Mooring FA consisted of an InterOcean (S4) and three Aanderaa model 7 (AS) current meters. EB1 and GB moorings each consisted of two InterOcean (S4) current meters. Mooring EB2 consisted of two InterOcean (S4) current meters and an EG&G smart acoustic current meter (SA). Mooring DA consisted of an InterOcean (S4) current meter and an Aanderaa model 4 (AA) current meter. DA and GA moorings each consisted of a Proudman Oceanographic Laboratory ADCP (DP-ADCP). Mooring HA consisted of a RD Instruments narrow band ADCP (RD-ADCP). Finally, mooring HB consisted of a water level recorder (WR). A summary of the data returned from each mooring can be found in section 2.

After calibration, statistics were calculated from the current meter data and a low pass filter applied to produce six-hourly values which were also statistically analysed. Furthermore, standard time series plots were produced in order to check data quality and aid in the interpretation of the data.

A successful recovery phase has given a good return of equipment with only two losses, one probably due to trawling. The strong tidal currents present in the channel also contributed to the movement of two ETA rigs from their original positions and a DP-ADCP suffered from a flooded compass. Overall, however mooring design and meter reliability has given a 78% return of good data.

2 SUMMARY OF DEPLOYMENTS

The following information gives an overview of the data processed at the six sites from the North Channel experiment Challenger cruises.

2.1 Thermistor chain moorings

Site	Mooring No.	Deployed	Recovered	Type Chain & Logger No.	Data Length (days)	Comments
AB	00575	21-SEP-93	-------	ST 1682 11	0.0	Lost
EC	00579	21-SEP-93	24-SEP-93	ST 1756 07	2.9	Channel 7 stops working during deployment

2.2 U-Shaped current meter mooring

Site	Mooring No.	Deployed	Meter Type/No.	Meter Height	Comments
DB	00577	20-SEP-93	AA 3277 S4 1831	55.0 70.0	Lost

2.3 Pop-up current meter mooring

Site	Mooring No.	Deployed	Recovered	Meter Type/No.	Meter Height	Data Length	Comments
FA	00582	19-SEP-93	14-OCT-93*	S4 1113	245.0	25.1	Good data
				AS 9959	165.0	25.1	Good data
				AS 9632	95.0	25.1	Pressure sensor over loaded
				AS 9631	20.0	25.1	Pressure sensor over loaded

* Release mechanism appears to have fired by mistake on 14-OCT-93.

2.4 Surface current meter moorings (ETA)

Site	Mooring No.	Deployed	Recovered	Meter Type/No.	Meter Depth	Data Length	Comments
EB1	00578	18-SEP-93	24-SEP-93	S4 1196	5.0	5.5	Mooring moved
				S4 1112	15.0	5.5	off position
EB2	00590	28-OCT-93	02-NOV-93	S4 1112	5.0	4.3	Spikes in data
				S4 1119	15.0	4.6	Good data
				SA 6997	16.0	-	Burst data
GB	00584	19-SEP-93	24-SEP-93	S4 1644	5.0	5.1	Mooring moved
				S4 1119	15.0	5.1	off position

2.5 Bottom mounted moorings

Site	Mooring No.	Deployed	Recovered	Meter Type/No.	Data Length	Comments
DA	00576	20-SEP-93	01-NOV-93	DP 0009	42.1	Good data until timing malfunction
GA	00583	19-SEP-93	01-NOV-93	DP 0007	0.0	Compass flooded + timing errors + gaps
HA	00585	20-SEP-93	31-OCT-93	RD 0394	41.1	Good data
HB	00586	20-SEP-93	31-OCT-93	WR 0445	41.1	Good data

3 RIG SYSTEM DESCRIPTION

The moorings at sites D, E, F and G were deployed across the North Channel of the Irish sea along a line from Belfast Lough to Portpatrick (See Figure 1). One of the thermistor moorings was deployed at site A; one of three MAFF moorings A, B and C in situ during part of the experiment. Site H was deployed further north at approximately 54° 60'N 5° 30'W. Trawling and strong tidal currents contributed to two losses, however the overall recovery rate was 78%. Refer to Howarth et al (1994) RRS Challenger cruise report for a full description of the rigs used. Additional deployments at the various sites are indicated by a bracketed number after the site letters and moorings in close proximity to each other have the same first letter of the two letter label.

3.1 Thermistor chain moorings

Thermistor chain moorings were deployed at sites AB and EC. Schematic diagrams of this type of mooring are given in Figures 2(a) and 2(b). Each consisted of a logger and 11 thermistors contained in a chain that was deployed beneath a spar buoy. The mooring at site AB was lost.

3.2 U-shaped current meter mooring

A U-shaped current meter mooring was deployed at site DB. A schematic diagram of this type is given in Figure 2(c). The mooring consisted of two current meters deployed beneath a sub surface buoy. The sub-surface buoy's anchor was in turn attached by a ground line to a second anchor to which was attached a spar buoy. The mooring was lost.

3.3 Pop-up current meter mooring

A Pop-up current meter mooring was deployed at site FA. A schematic diagram of this type of mooring is given in Figure 2(d). It consisted of a four current meters deployed beneath a 48″ diameter sub-surface buoy. An acoustic release mechanism was to be used for recovery, however it fired prematurely after 25 days.

3.4 Surface current meter moorings (ETA)

Surface current meter moorings were deployed at sites EB(1), EB(2) and GB. Schematic diagrams of this type of mooring are given in Figures 2(e), 2(f) and 2(g). Each mooring consisted of a toroid buoy at the surface which gave free vertical movement during the

tidal cycle beneath which current meters were suspended. The toroid was tethered to an anchored sub-surface buoy. Moorings EB(1) and GB returned data, however they moved from their original positions. Extra anchor ballast was added for the EB(2) mooring which resulted in a stable rig.

3.5 Bottom mounted moorings

Bottom mounted moorings were deployed at sites DA, GA, HA and HB. Schematic diagrams of this type of mooring are given in Figures 2(h), 2(i) and 2(j). The moorings at sites DA, GA and HA each contained an ADCP, while HB consisted of a single water level recorder. In addition each frame contained ballast, a rope spooler system, buoyancy spheres and an acoustic release. On recovery, the release was triggered by sending acoustic signals from the ship which enabled the frame to separate from the ballast. The frame under its own buoyancy, then rose to the surface ready for picking up. Ballast was recovered using the spooling system. All moorings of this type were recovered.

4 DATA RECORDING METERS

4.1 DP-ADCP (POL 250kHz version)

The ADCP measures the vertical profile of currents in bins from the sea bed to the surface. The ADCP sends out short acoustic pulses, typically lasting a few thousandths of a second, at a fixed frequency. The acoustic pulses, transmitted in two narrow beams at right angles to each other and 30° to the vertical, are reflected back to the ADCP by small particles which move with the water, such as plankton or sediment. The frequency of the reflected signal is changed by a small amount proportional to the current speed, the Doppler shift. By measuring the frequency change along the two beams, the speed and direction of the currents can be determined. The currents at different heights through the water column are obtained by chopping the return signal into segments by time.

The DP-ADCP 250kHz has a range of 100 m and can measure up to 24 bins. However, the technique has some limitations which reduce the amount of good data return. The bins nearest to the transducers may give erroneous data due to the time taken for transients to decay, whereas the far end bins may be affected by interference from side lobes reflected from the sea surface. Hence, the good data return bins are usually between 15% of depth

from the surface and 10% of depth from the bottom.

With previous deployments of the DP-ADCP (Knight et al, 1992) a reduction in velocity amplitude with increasing distance from the transducers was experienced. Therefore care must be taken when comparing upper bin results with other current meters or model output. The phase of the data is not affected by this problem.

DP-ADCP Specification

Speed	Range	0 to 350 cm s^{-1}
	Accuracy	$\pm$4 cm s^{-1}
Direction	Range	0 to 360°
	Accuracy	$\pm$ 5°
Tilt	Two tilts measured at 90° to each other	

DP-ADCP Set up details

Sample period	10 minutes
Number of bins (cells)	12
Number of pings in ensemble	275
First bin height/Bin separation	9.84 m / 5.67 m
Bin heights (range) (1-16)	9.8 m / 15.5 m / 21.2 m / 26.9 m / 35.5 m / 38.2 m / 43.9 m / 49.5 m / 55.2 m / 60.9 m / 66.5 m / 72.2 m

4.2 RD-ADCP (RDI 153kHz version)

The RD Instruments narrow band ADCP measures currents by the same method as outlined for the DP-ADCP's. However, it uses four beams to measure currents instead of two. These extra beams can be used to calculate the vertical velocity and check data quality.

RD-ADCP Specification

Speed	Range	0 to 500 cm s^{-1}
	Accuracy	$\pm$0.8 cm s^{-1}
Direction	Range	0 to 360°
	Accuracy	$\pm$ 2°
Tilt	Two tilts measured at 90° to each other	

RD-ADCP Set up details

Sample period	10 minutes
Number of bins (cells)	15
Number of pings in ensemble	240
First bin height/Bin separation	12.0 m / 8.0 m
Bin heights (range) (1-18)	12.0 m / 20.0 m / 28.0m/ 36.0 m / 44.0 m / 52.0 m / 60.0 m / 68.0 m / 76.0 m / 84.0 m / 92.0 m / 100.0 m / 108.0 m / 116.0 m / 124.0 m

4.3 S4 InterOcean current meter

The InterOcean Systems model S4 electromagnetic current meter is a self-contained 0.25 m diameter sphere, with no protruding sensors. It measures the current by creating a magnetic field and sensing the voltage induced in two orthogonal directions by the movement of sea water, an electrical conductor, through the field. This information combined with the Flux-Gate compass gives the North and East components of velocity computed. The S4 was used in vector averaging mode throughout the survey. It sampled every ½ second and averaged the vectors over a 10 minute recording interval.

S4 Specification

Speed	Range	0 to 350 cm s^{-1}
	Accuracy	$\pm$2 cm s^{-1}

Direction	Range	0 360°
	Accuracy	±2°

4.4 Aanderaa RCM4 and RCM7 current meters

The RCM4 uses a Savonius rotor to measure speed with one direction every sample. The RCM7 uses a paddle wheel to measure speed with directions sampled every 12 seconds and averaged every sample interval. Temperature is measured by a thermistor fitted into a stud extending into the water. Conductivity is measured by an electrodeless induction conductivity cell and pressure is measured by a sensor consisting of a potentiometer driven by a Bourbon tube. Both types of meter used similar sensors, but differed in data storage. The RCM4 used 6mm width reel magnetic tape and the RCM7 used solid state memory. Both types were set up to record every 10 minutes.

RCM 4/7 Specification

Speed	Range	2 to 250 cm s^{-1}
	Accuracy	±2 cm s^{-1}
Direction	Range	0 to 360°
	Accuracy	±5°
Temperature	Range	-2.46 to 21.4°C
	Accuracy	±0.05°C
Conductivity	Range	21 to 51 mmho cm^{-1}
	Accuracy	±0.0025 mmho cm^{-1}
Pressure	Range	0 to 100 PSI or 0 to 200 PSI
	Accuracy	±1%

4.5 Sea Data Corporation logger with Aanderaa chain

The Sea Data logger records temperature from a sensor situated on the logger case and from 11 thermistors located on a PVC chain (string) at known intervals. The logger and thermistor chain are deployed in the vertical to enable a temperature profile to be measured. The logger was set up to record temperature every 112.5 seconds.

Seadata sensor specifications

Temperature	Range	0.0 to 30.0°C
	Accuracy	±0.025°C

4.6 Aanderaa water level recorder

The Aanderaa WR Model 5 is a self recording high precision instrument for recording water level by measurement of hydrostatic pressure. The standard range is 270 metres, corresponding to a sensor range of 0-400 PSI (0-27.2 bars). The effects due to waves are averaged over a 40 second integration time. Temperature is obtained from a thermistor fitted on the top plate of the meter and extending into the water. It was set up to record every 10 minutes.

WR sensor specifications

Pressure	Range	0.0 to 27.2 bars (0-400 PSI)
	Accuracy	0.01% of pressure
Temperature	Range	0.0 to 30.0°C
	Accuracy	±0.03°C

Conversion from bars to meters of water

The WR has a sensitive pressure sensor which produces pressure in bars after calibration. The pressure measured includes water column pressure and atmospheric pressure. In order to produce a value for meters of water above the sensor instead of bars the atmospheric pressure must be subtracted from the calibrated value of pressure and the result multiplied by 9.94.

$$\mathbf{p = \rho * g * h}$$

hence $\mathbf{h = 9.94\ m}$

where **p** Pressure at 1 bar (10000 Pascals)

ρ Water density assumed to be 1025 kg/m^3

g	Gravitational acceleration (9.81m/s)
h	Depth of water equivalent to 1 bar pressure

$$P = (P_{total} - P_{atm}) * 9.94$$

where	**P**	Pressure in metres of water
	P_{total}	Total recorded pressure in bars
	P_{atm}	Atmospheric pressure in bars

4.7 EG&G smart acoustic current meter

The EG&G smart acoustic current meter uses acoustic techniques to measure currents. It was set up to measure speed and direction in a burst mode, with 1 second sampling for 30 minutes every 4 hours. Temperature was recorded as a spot measurement every 4 hours.

SA Specification

Speed	Range	0 to 360 cm s^{-1}
	Accuracy	$\pm$1 cm s^{-1}
Direction	Range	0 360°
	Accuracy	$\pm$5°
Temperature	Range	-2.0 to 35.0°C
	Accuracy	$\pm$0.05°C

5 DATA PROCESSING STEPS

5.1 Raw data transfer

The data recorded were brought back to POL on 3½ inch discs in an IBM compatible ASCII format. They were then translated and stored on an IBM/PS2, and then transferred to a Silicon Graphics UNIX workstation via PC-NFS on the IBM/PS2 using DOS to UNIX conversion utilities.

5.2 Processing stage

Three software systems, PWRAW, CALTF and CALTP, were developed at POL for quick and efficient processing. Processing was completed on each data set by the following steps.

(1) Initially, a visual display of the raw data and an early indication of data quality were obtained by using PWRAW software written in the Visual Numerics PV-Wave command language. Obvious spikes were removed by manual editing.

(2) Secondly, information such as deployment and recovery dates, and start and end times, mooring positions, calibrations etc.., were input into an Oracle data base.

(3) Thirdly, calibrated output together with a data quality report (e.g. timing errors) were obtained by using CALTF software written in FORTRAN, which interrogates the Oracle data base for the necessary processing information.

(4) Finally, graphical and statistical output were produced, as a further check of data quality and as an aid in the interpretation of the data by using CALTP software written in FORTRAN with UNIRAS subroutines.

6 DETAILS OF STATISTICS AND FILTERING

6.1 Simple statistics

A simple statistical analysis was carried out on each calibrated current meter data set. The following statistics were calculated :-

(1) Mean, variance and standard deviation of the East and North components of velocity.
(2) The mean vector speed and direction were calculated from the above statistics.
(3) The maximum ten and minimum ten Northings and Eastings, and the top speeds.

6.2 Variance ellipse statistics

Statistical analysis was also carried out on the current ellipse, which can be graphically represented by a scatter plot (Refer to section 7.3 Graphical Output). The following statistics were calculated :-

(1) The maximum and minimum variances and their ratio (minimum/maximum). If the ratio is close to 1, the currents have no preferred direction, whilst if it is close to zero, the flow is rectilinear.

(2) The direction associated with the maximum and minimum variance, in the range of -180° to +180°.

(3) The total variance which equals the sum of the North and East component variances and the sum of the maximum and minimum variances.

(4) The average direction for each half of the ellipse, related to the directions of maximum variance. If these directions differ by 180° the scatter plot is symmetrical.

6.3 Filtering

The ten minute calibrated current meter data were also low-pass filtered, see Figure 3 which shows the filter's response function, and sub-sampled every 6 hours. Three days of data are lost at the beginning and the end of the record when this filter is applied. The statistical analysis was repeated on the filtered data set. When the data record is less than eight days no filtered statistics or filtered plots are produced.

7 FORMAT OF DATA OUTPUT

All speeds and velocities are in m s^{-1}, directions in degrees true and time in GMT. The results are ordered by mooring type (Refer to section 2 Summary of deployments). Each mooring result is made up of mooring information, meter information, and graphical output and statistics (both unfiltered and filtered).

7.1 Mooring information

Each mooring has a page of the following information

Position latitude	: Latitude of deployment
Position longitude	: Longitude of deployment
Water depth(m)	: Depth measured by ship's echo sounder
Deployed on cruise	: Cruise identifier or ship name
Recovered on cruise	: Cruise identifier or ship name
Site name identification	: Additional site identifier
Magnetic deviation	: Taken from charts
Rig deployed on	: Time frame on the bottom

Rig recovered on	: Time release fired on rig
Period of deployment	: Total time of deployment
Comments	: Details regarding mooring

7.2 Meter information Each meter has a page of the following

Rig number	: Unique POL mooring/rig reference
Meter number	: Four digit current meter number
Sample interval	: Sampling interval in seconds
Meter height from bottom	: Height in metres
Position of meter on rig	: A for attached to frame
Meter type	: DP for POL ADCP and S4 for S4 current meter
	: RD for RDI narrow band ADCP.
	: AA for RCM4 and AS for RCM7 current meter
	: WR for Water Level Recorder
	: SA for EG&G smart acoustic current meter
	: ST for Seadata logger
Meter started	: Date and time
Meter stopped	: Date and time
Time of last valid scan	: Used when good data ends before switch off
Period in days on record	: Total time meter switched on
Total number of scans	: Used to check timing
Timing error	: Error in seconds
Comments	: Details regarding meter

7.3 Graphical output

The type of graphical output shown in the report depends on the type of meter. After each description the type of meter that is represented by the plot is noted.

(1) North and East components of velocity against time. The semi-diurnal nature of the tides can be seen as well as the Spring/Neap cycle in both components of velocity. Types : DP & RD (8 bins per plot); Single DP & RD; AA, AS & S4.

(2) Scatter diagrams of North components of velocity against the East components. These show the direction and magnitudes of the currents. This plot is often a good check on the quality of the data, in particular regarding direction and possible problems at low speeds. Types : DP & RD (8 bins per plot); AA, AS, & S4.

(3) Histograms of speed and direction. Indicates spread of speeds and directions throughout the deployment period. Types : AA, AS & S4.

(4) Stacked filtered stick plot. The filtered data can be displayed in a stick plot in order to see the change of the residual flow with time, and in the vertical. Types : DP & RD (8 bins per plot); AS & S4 - Located after the statistics of the bottom meter on mooring.

(5) Eulerian progressive vector plot. The nature of the residual flow is emphasised, although the semi-diurnal tides are also apparent. Types : Single DP & RD; AA, AS & S4.

(6) Temperature (°C), Salinity and Pressure (equivalent metres of water or bars) against time. Type : AA, AS & WR.

7.4 Statistical output

(1) Table of burst statistics. Type : SA.

(2) Simple statistics of the calibrated data and filtered data. A letter 'f' attached to the file name at the top of the individual statistics indicates results from a filtered data set. Types : Single DP & RD; AA, AS & S4.

(3) Statistics for each bin, giving vector mean speed and direction, maximum and minimum variance, and directions of maximum and minimum variance. Types : DP(12 bins); RD(15 bins).

ACKNOWLEDGEMENTS

The authors would like to thank POL staff for setting up, deploying and recovering the instruments.

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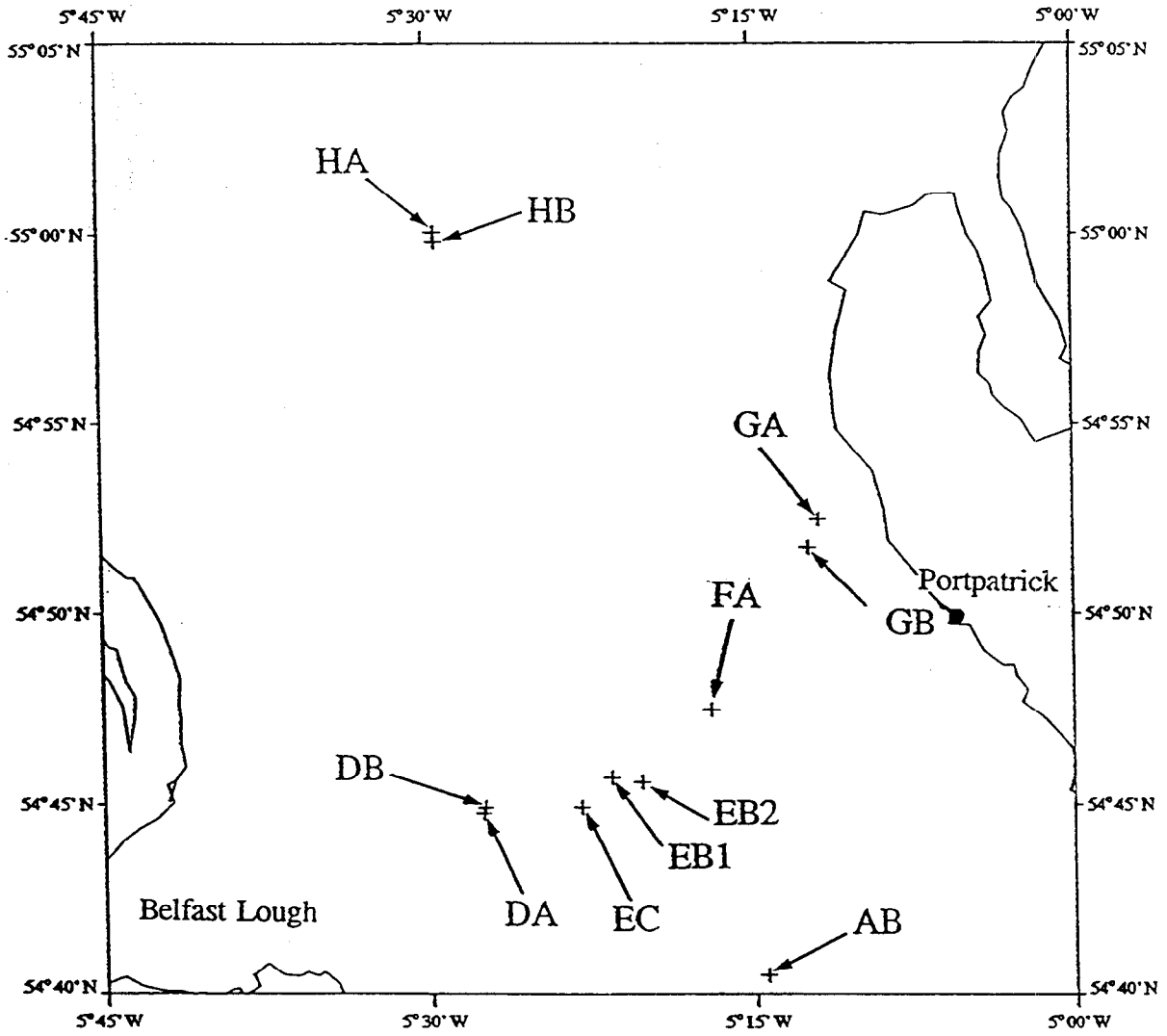


Figure 1 Mooring positions

AB

Thermistor Chain

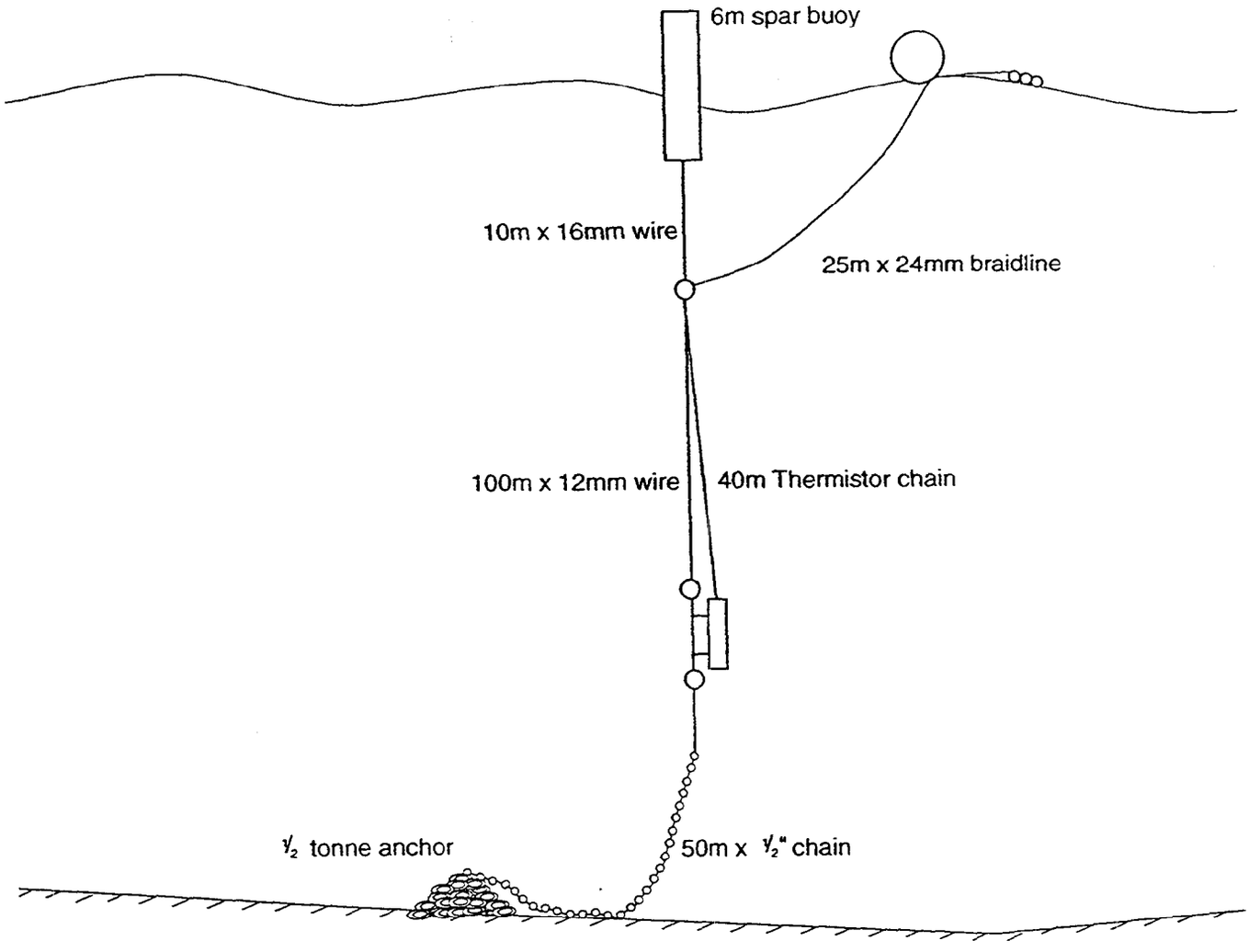


Figure 2(a) Thermistor chain - site AB

EC

Thermistor Chain

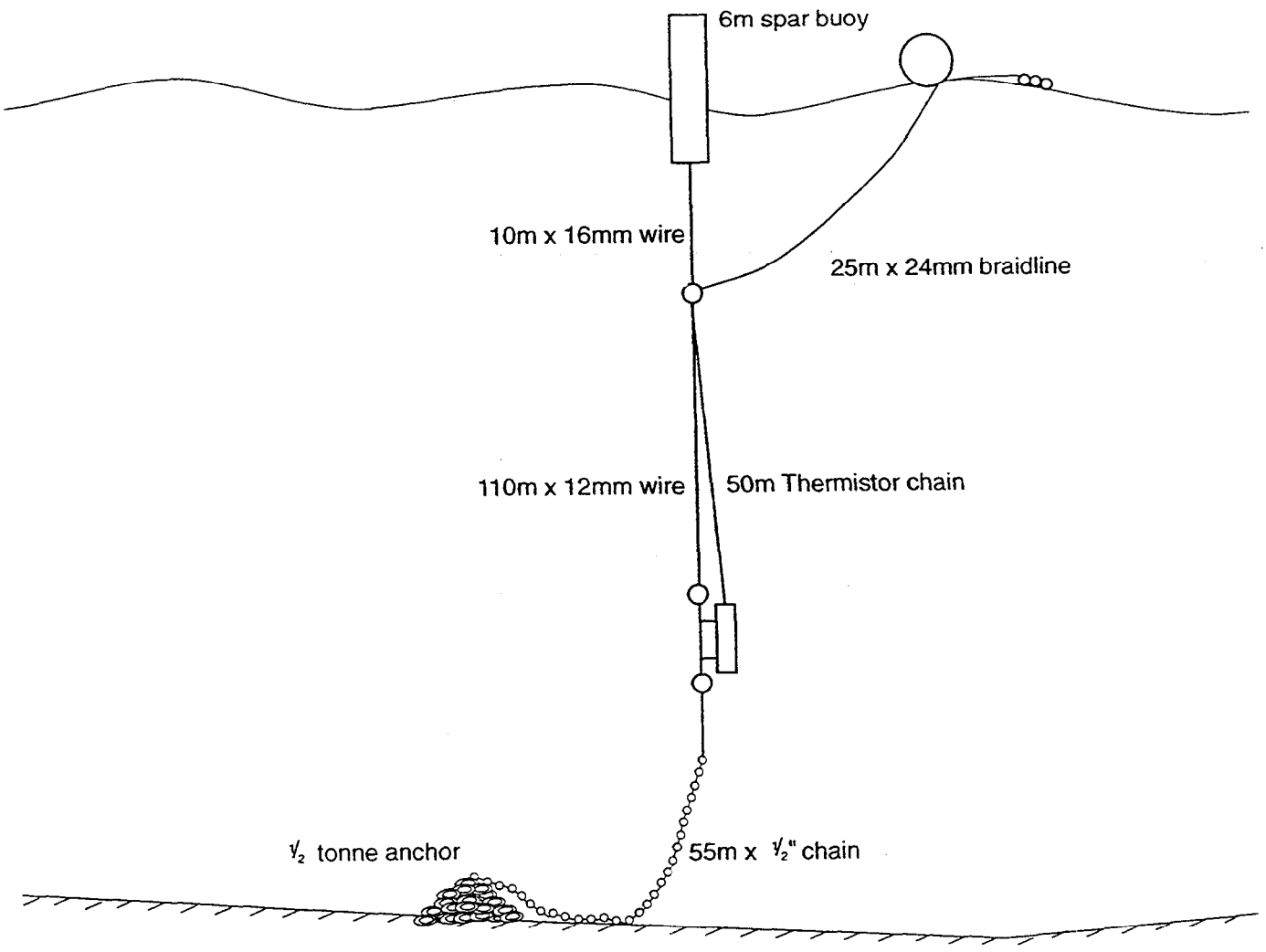


Figure 2(b) Thermistor chain - site EC

DB

'U' shaped current meter

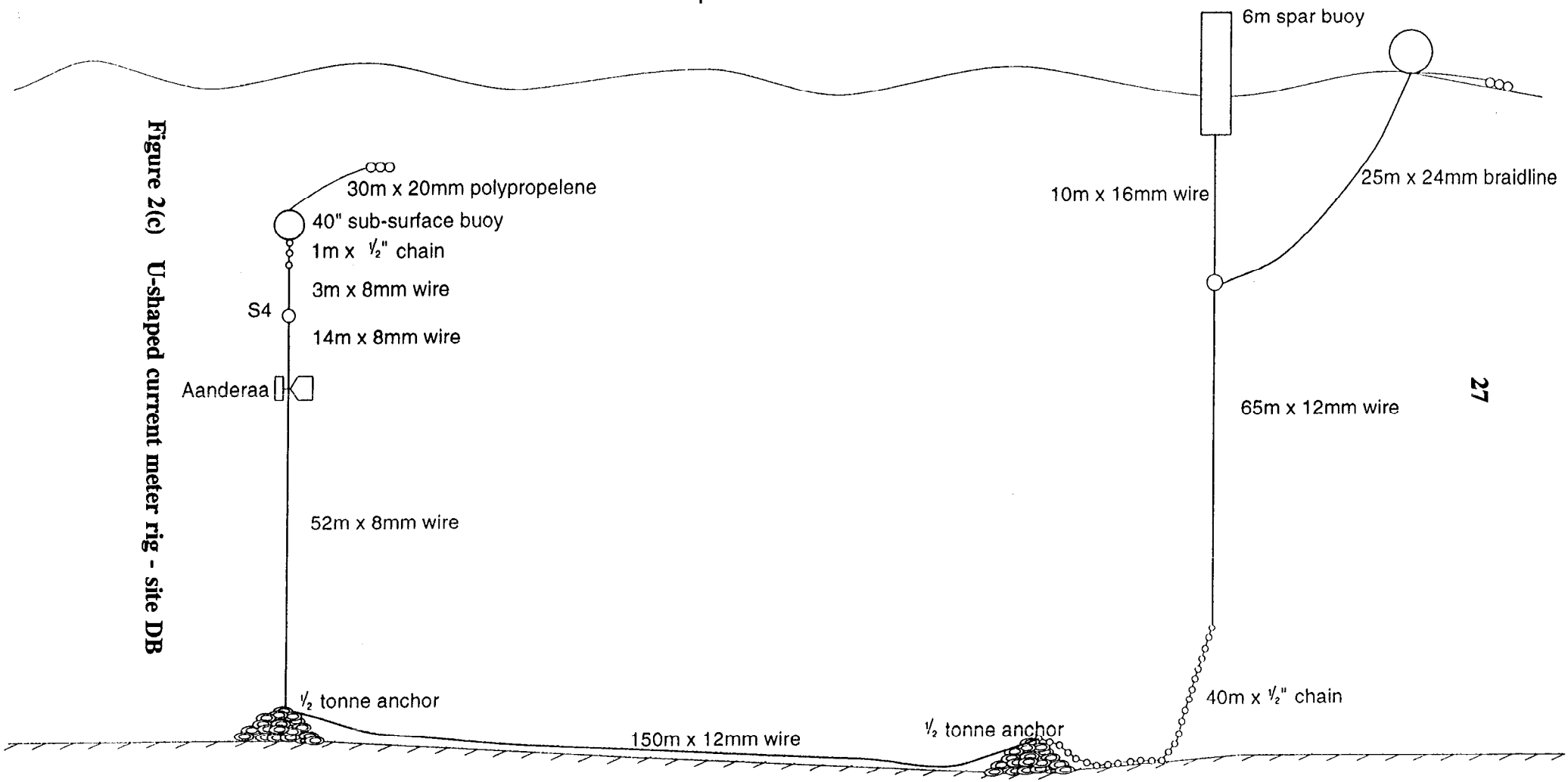


Figure 2(c) U-shaped current meter rig - site DB

FA

Pop - up Current Meter

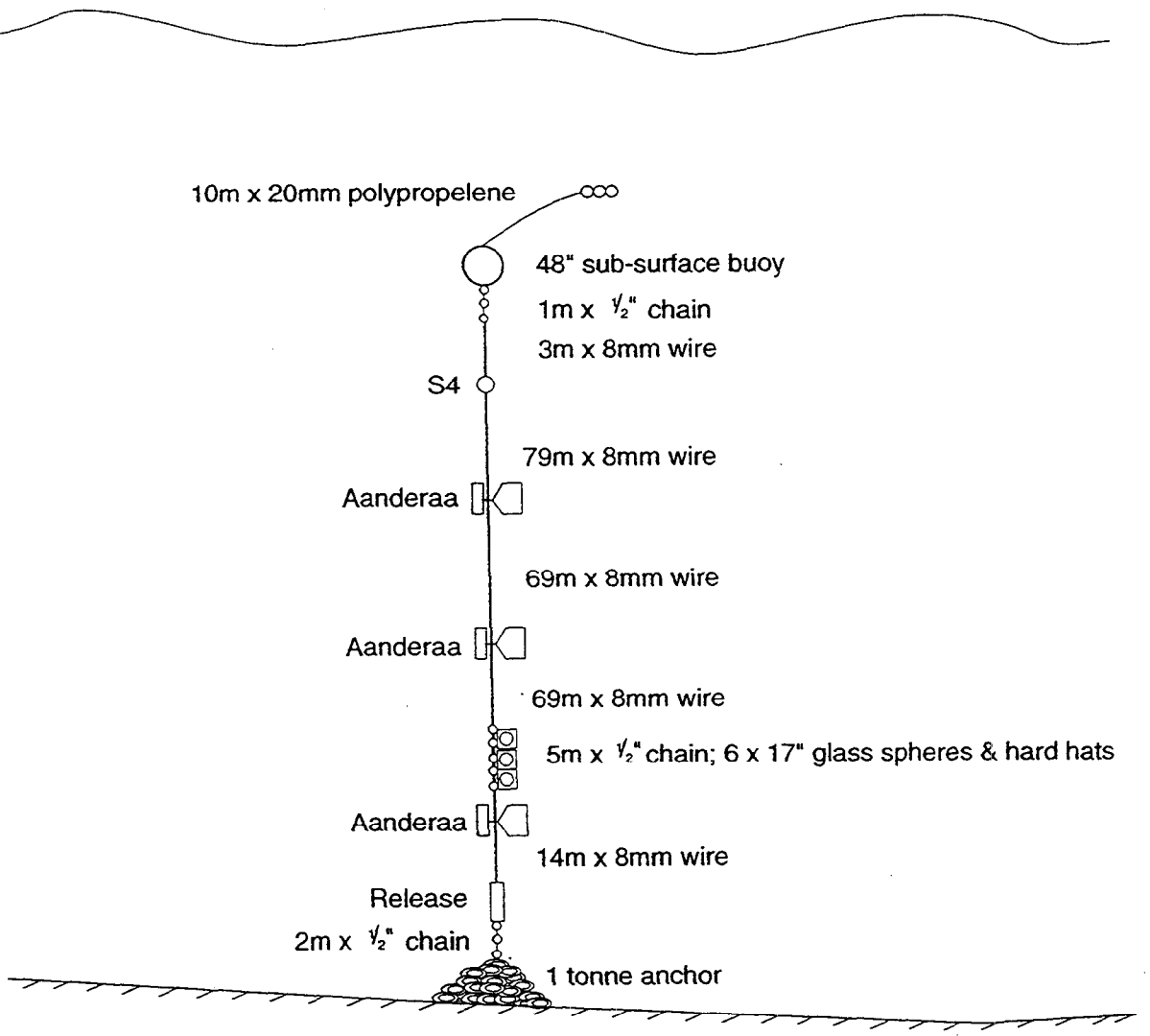


Figure 2(d) Pop-up current meter rig - site FA

Surface current meter (ETA)

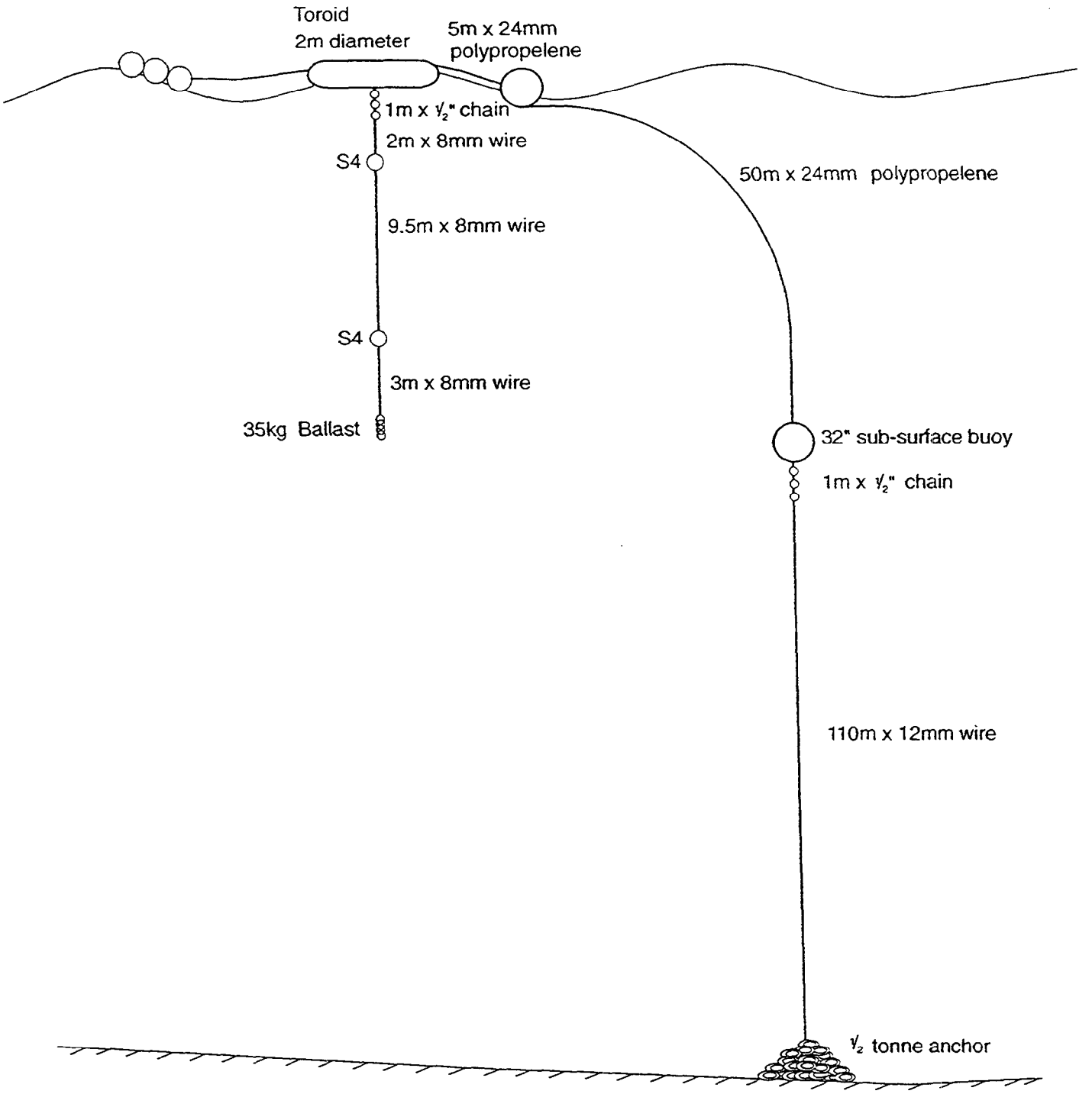


Figure 2(e) Surface current meter rig (ETA) - site EB(1)

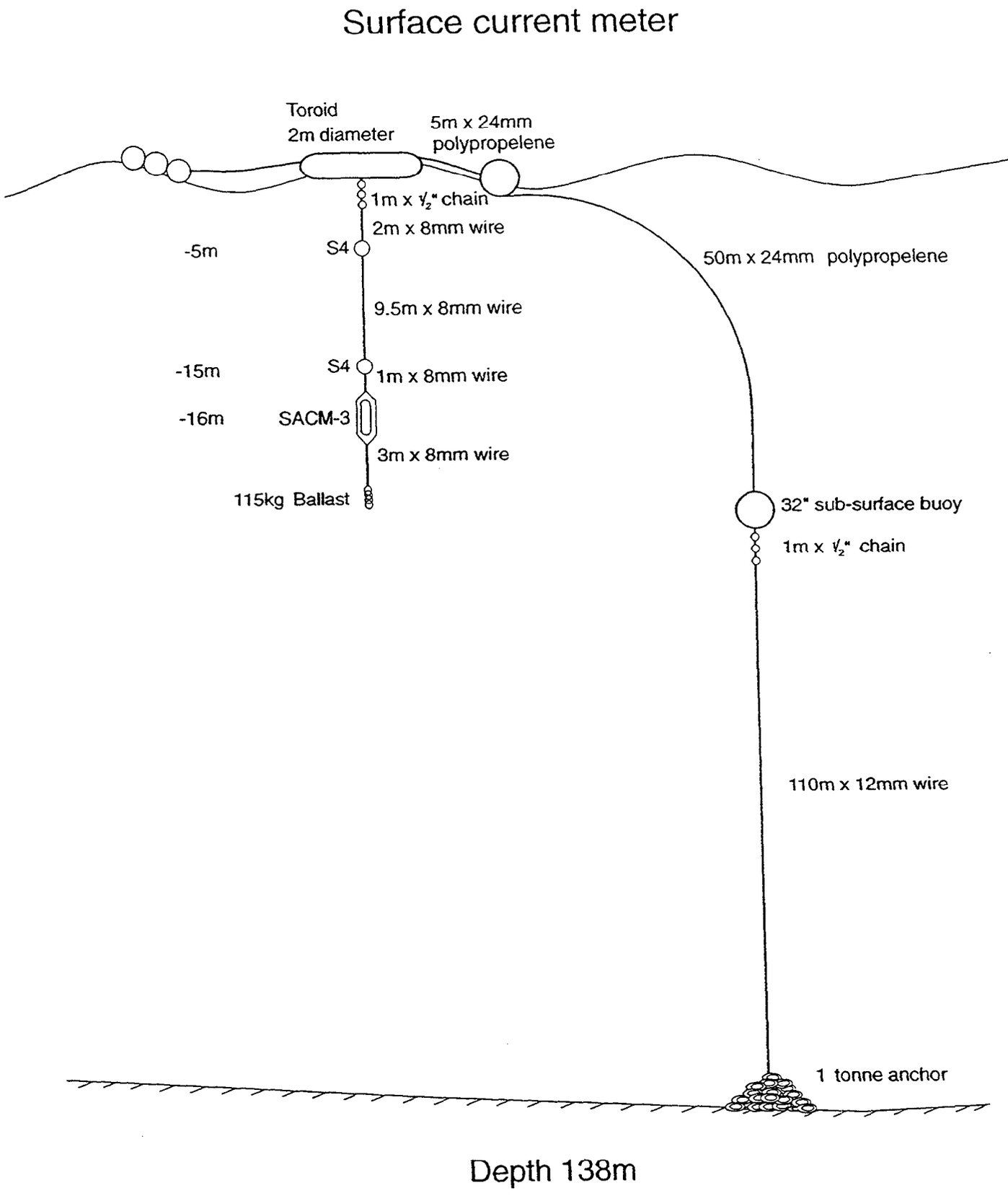


Figure 2(f) Surface current meter rig (ETA) - site EB(2)

Surface current meter (ETA)

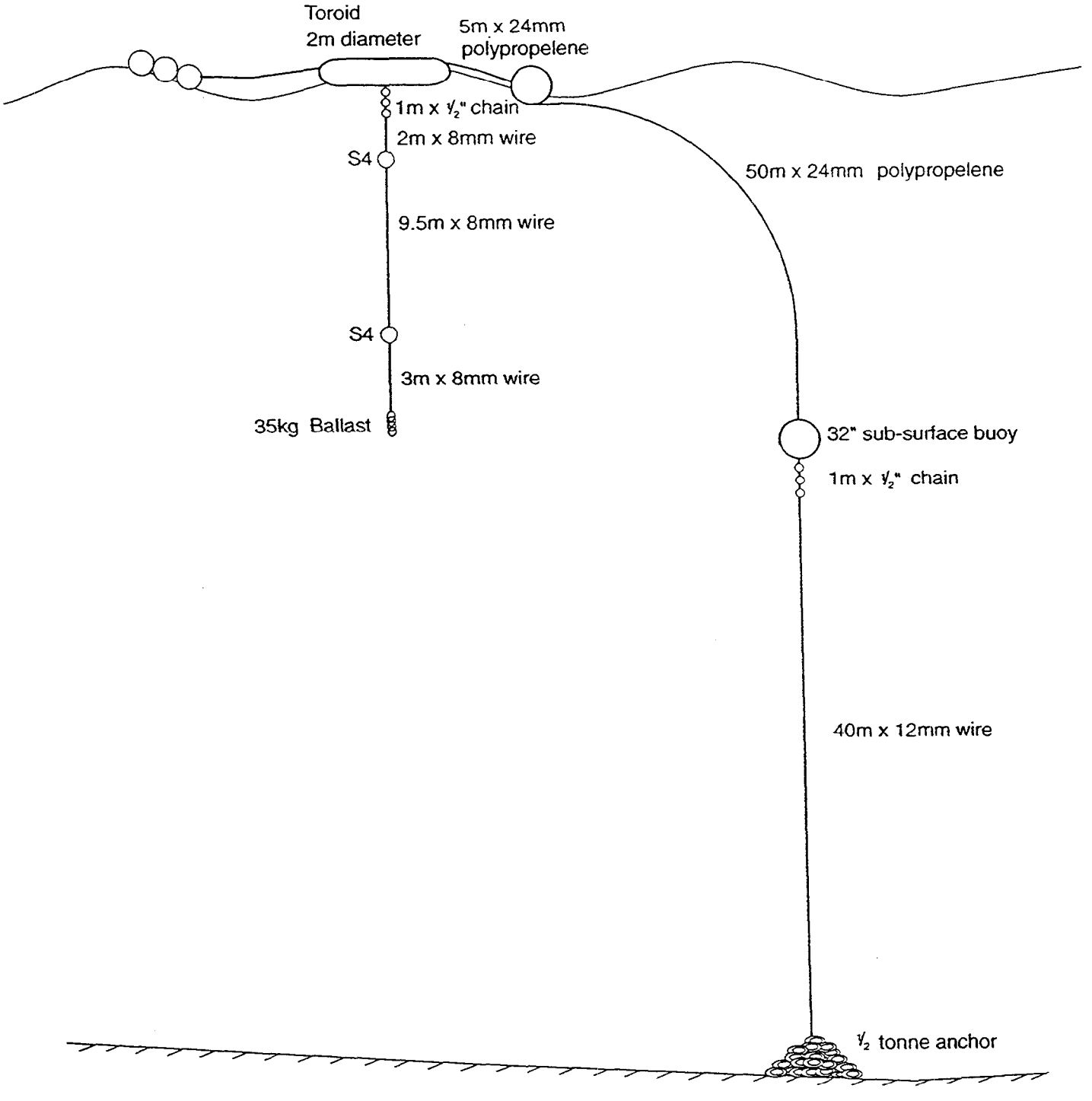


Figure 2(g) Surface current meter rig (ETA) - site GB

DA GA
Bottom mounted ADCP

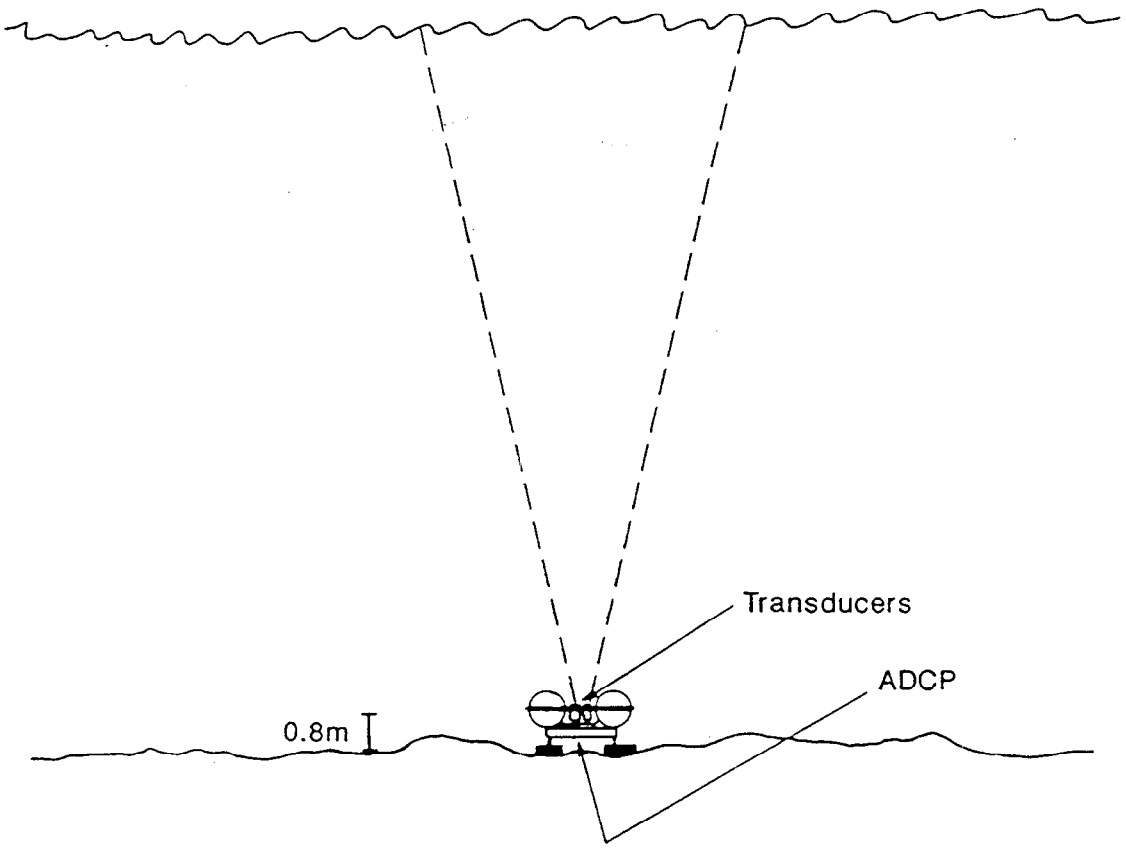


Figure 2(h) Bottom mounted DP-ADCP - site DA & GA

HA

Bottom mounted RDI ADCP

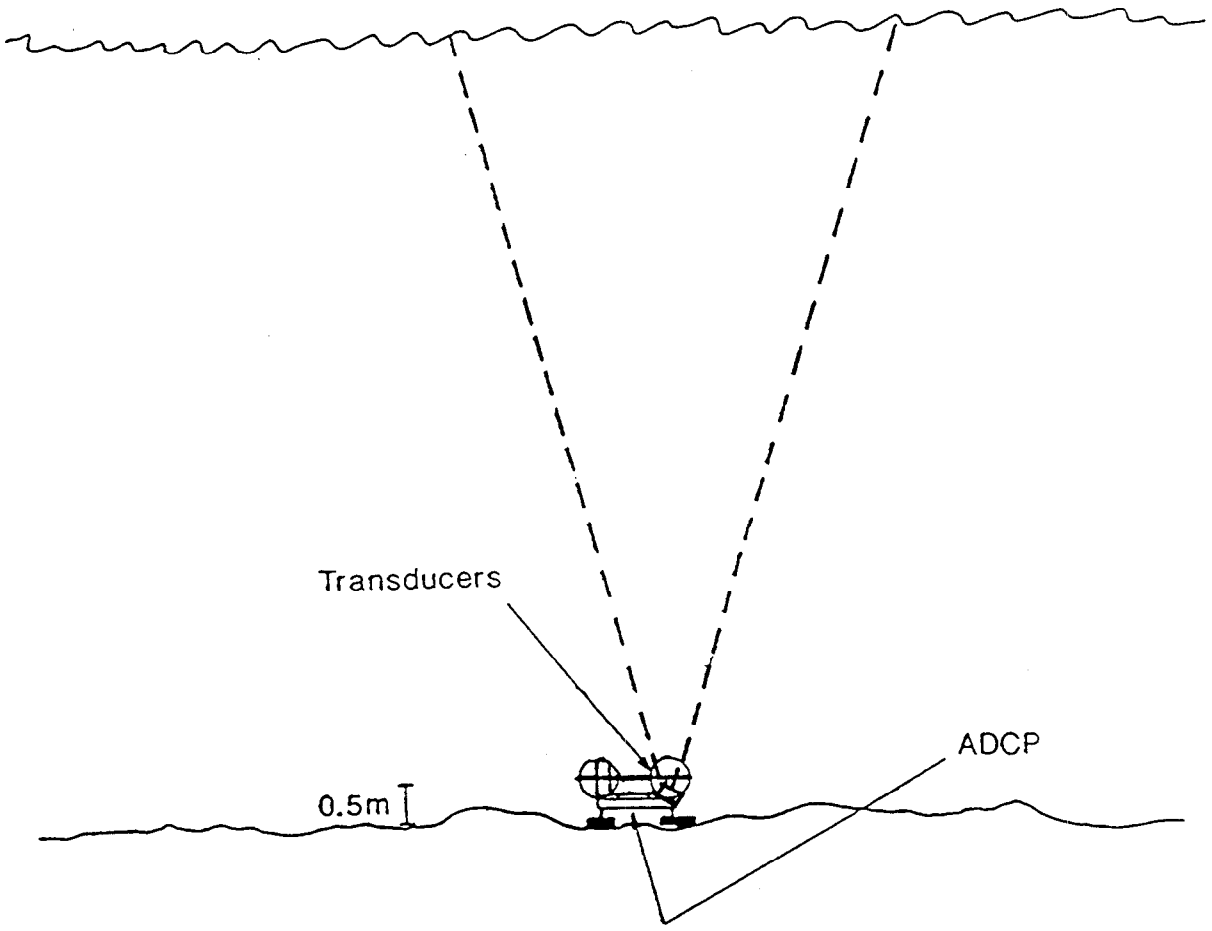


Figure 2(i) Bottom mounted RD-ADCP - site HA

HB
Bottom mounted Water Level Recorder

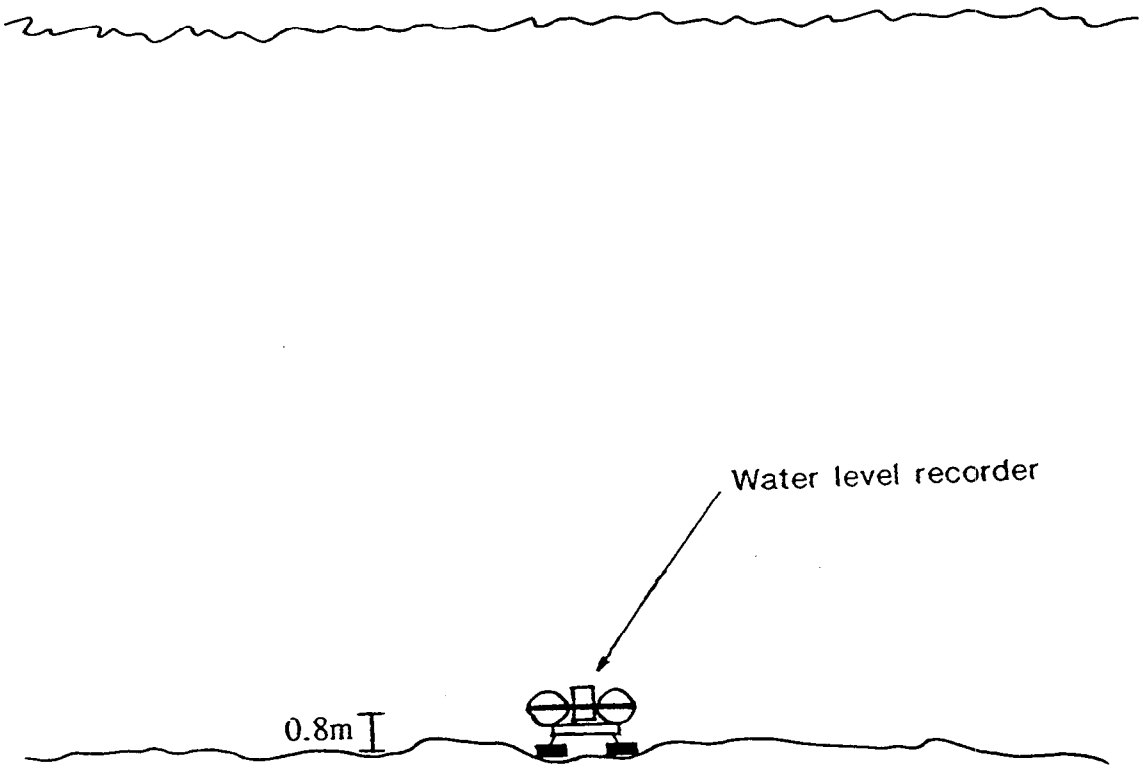


Figure 2(j) Bottom mounted water level recorder - site HB

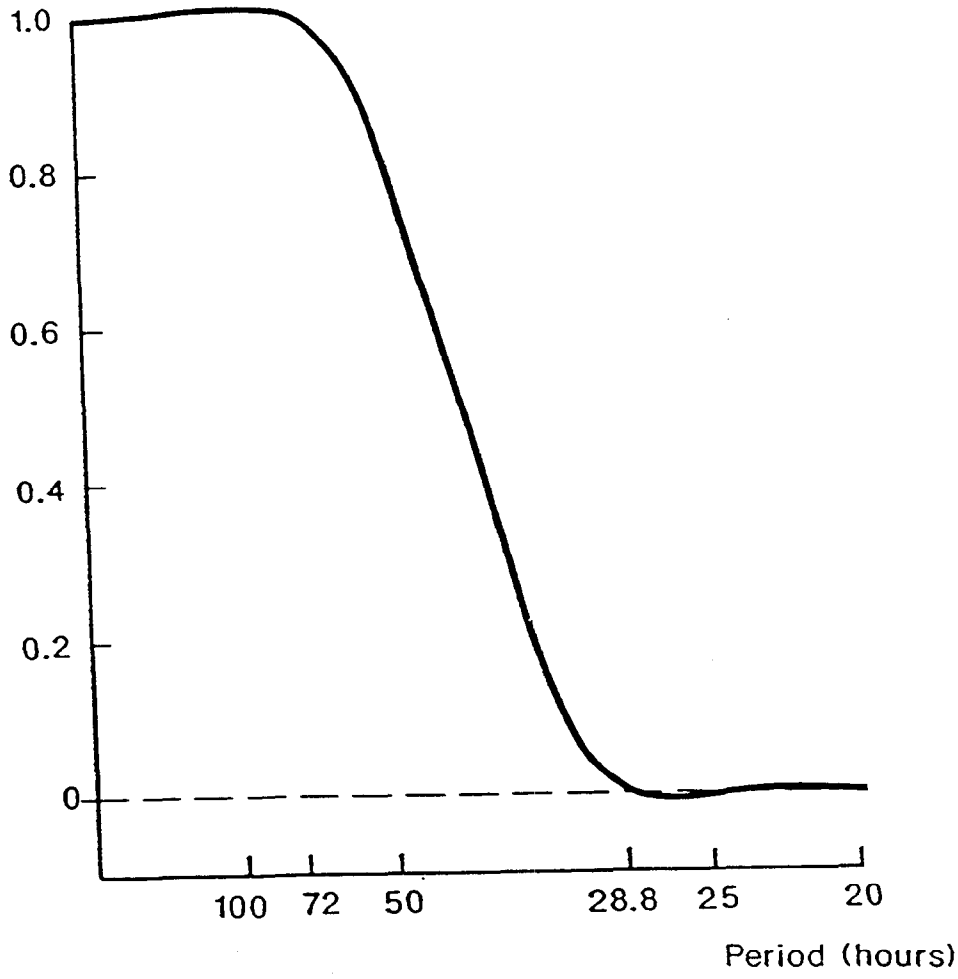


Figure 3 Plot of filter's response function

Rig information details for 00575

Position Latitude	:	54 40.26N
Position Longitude	:	05 14.88W
Water depth	:	143.0 m
Deployed on cruise	:	C106
Site name identification	:	AB
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	21-SEP-93 13:06:00
Comments	:	No sign of mooring during search on the 2nd November by RRS Challenger C107

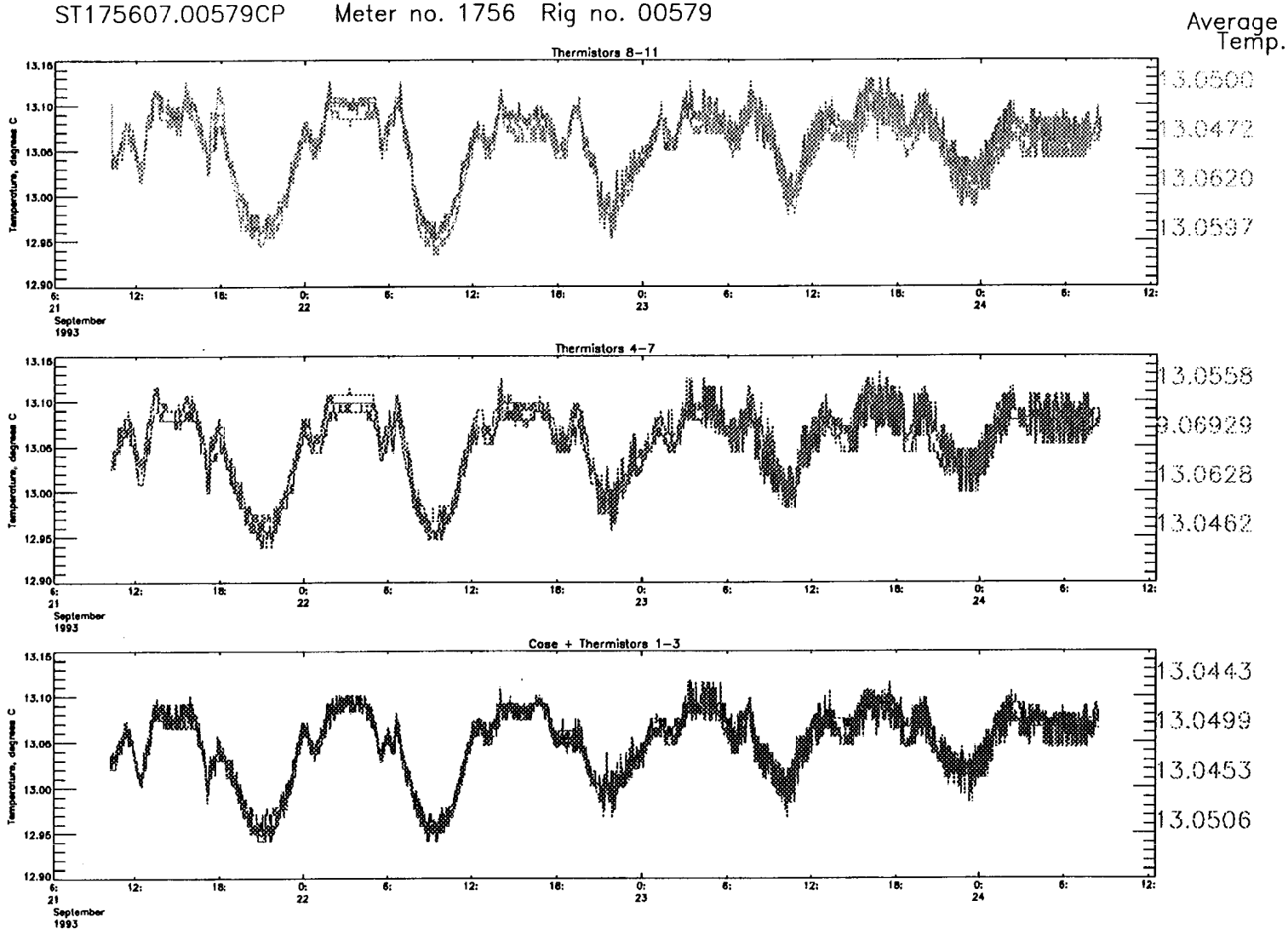
Rig information details for 00579

Position Latitude	:	54 44.71N
Position Longitude	:	05 23.39W
Water depth	:	141.0 m
Deployed on cruise	:	C106
Recovered on cruise	:	C106
Site name identification	:	EC
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	21-SEP-93 10:15:00
Rig recovered on	:	24-SEP-93 08:49:00
Period of deployment	:	2.9 days
Comments	:	Launch and recovery successful

Meter information details for 1756

Rig No	:	00579
Chain No	:	1756
Recording interval	:	112.5 seconds
Logger No	:	07
Meter type	:	ST
Meter started	:	21-SEP-93 08:00:00
Meter stopped	:	25-SEP-93 08:45:00
Period switched on	:	4.0 days
Period of good data	:	2.9 days
Total number of scans	:	2258
Timing error	:	None
Comments	:	Channel seven stops recording during deployment

ST175607.00579CP Meter no. 1756 Rig no. 00579



Rig information details for 00577

Position Latitude	:	54 44.68N
Position Longitude	:	05 27.92W
Water depth	:	100.0 m
Deployed on cruise	:	C106
Site name identification	:	DB
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	20-SEP-93 08:17:00
Comments	:	No sign of mooring during search on the 2nd November by RRS Challenger C107

Rig information details for 00582

Position Latitude	:	54 47.25N
Position Longitude	:	05 17.33W
Water depth	:	275.0 m
Deployed on cruise	:	C106
Recovered on cruise	:	TRAWLED
Site name identification	:	FA
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	19-SEP-93 08:50:00
Rig recovered on	:	14-OCT-93 11:00:00
Period of deployment	:	25.1 days
Comments	:	Launch successful but prematurely released after 25 days

Meter information details for 1113

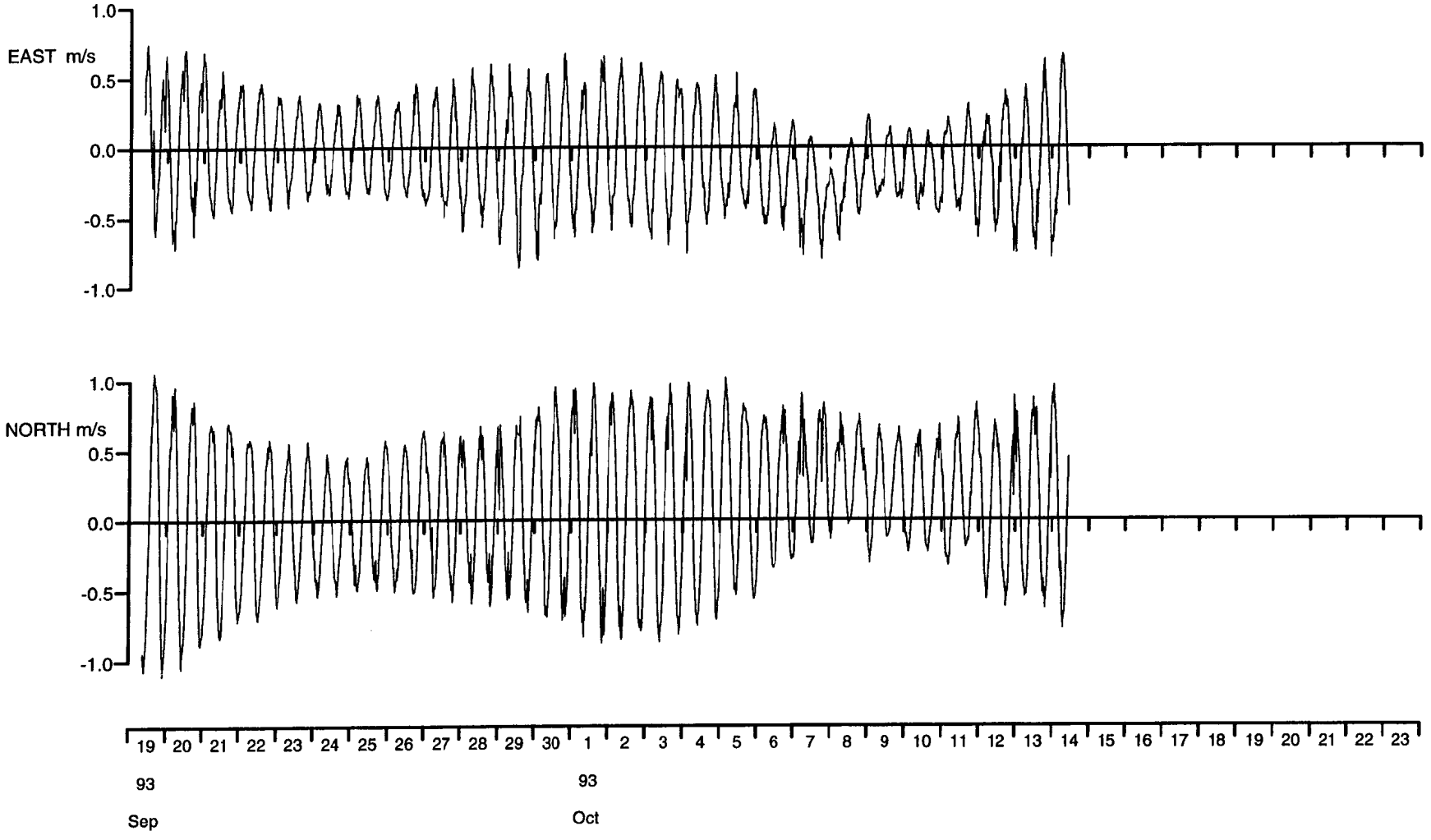
Rig No	:	00582
Meter No	:	1113
Recording interval	:	600.0 seconds
Meter height from bottom	:	245.0 m
Position of meter on rig	:	T
Meter type	:	S4
Meter started	:	19-SEP-93 07:10:00
Meter stopped	:	06-NOV-93 13:01:00
Period switched on	:	48.2 days
Period of good data	:	25.1 days
Total number of scans	:	3613
Timing error	:	60 seconds slow
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1113 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 245.0

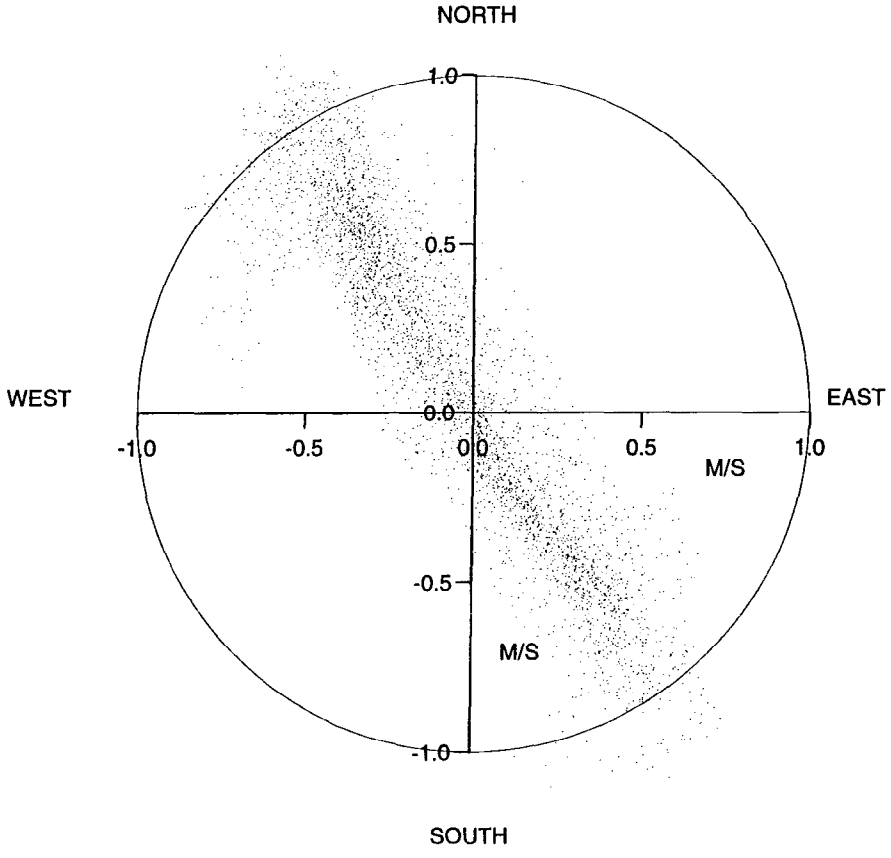


SCATTER PLOT

Meter no. 1113 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 245.0

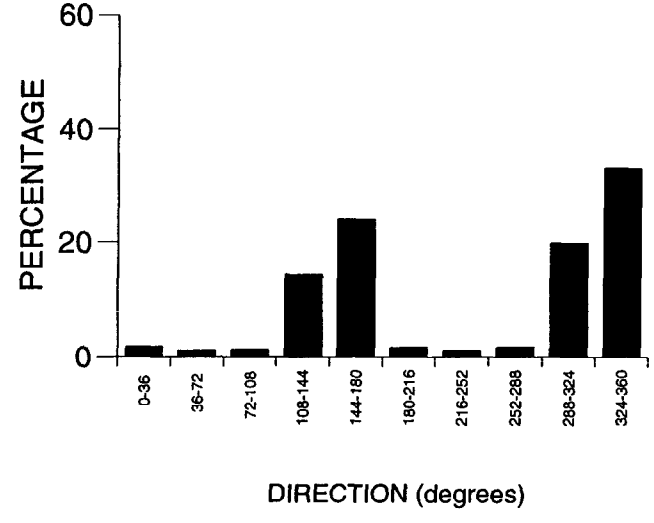


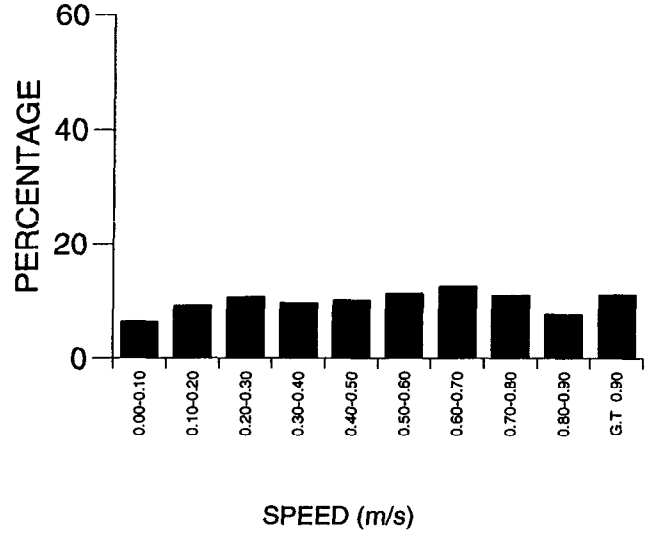
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 1113 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 245.0



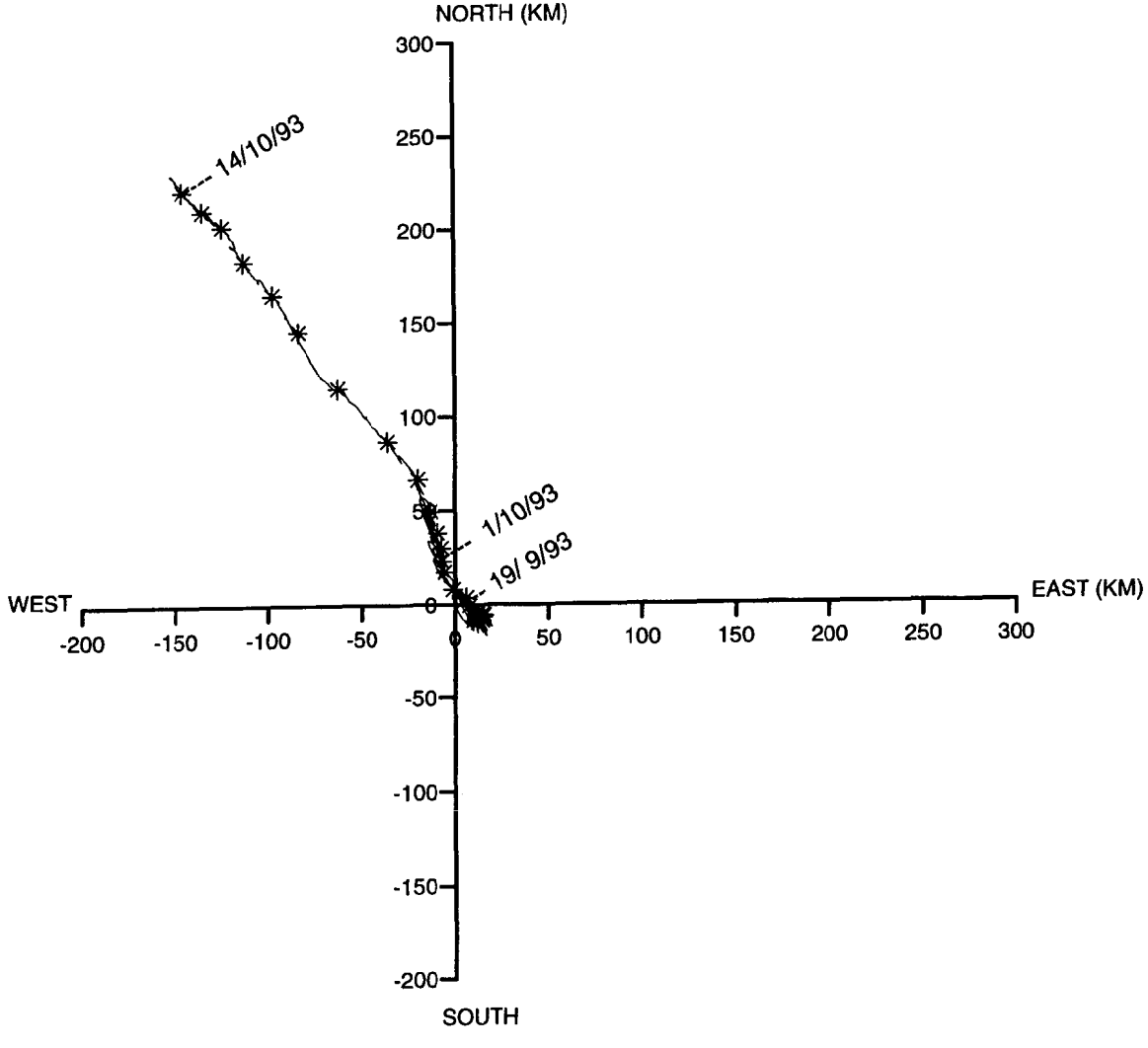


VECTOR PLOT

Meter no. 1113 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 245.0



Statistics for s41113t.00582s

	Mean	Variance	Standard deviation
Eastings	-0.0671	0.11087555E+00	0.33297980E+00
Northings	0.1028	0.23313862E+00	0.48284432E+00
Speed	0.5277	0.80566876E-01	0.28384304E+00

Vector mean speed 0.1228

Vector Mean Direction -33.1

Maximum ten values

Eastings					Northings				
0.743	0.736	0.727	0.705	0.705	1.059	1.026	1.025	1.019	1.013
0.691	0.689	0.688	0.686	0.684	1.007	1.000	0.999	0.995	0.981

Minimum ten values

Eastings					Northings				
-0.795	-0.798	-0.800	-0.807	-0.811	-1.013	-1.015	-1.024	-1.032	-1.038
-0.812	-0.836	-0.847	-0.857	-0.865	-1.046	-1.050	-1.055	-1.074	-1.104

Maximum speeds

1.228	1.211	1.202	1.186	1.185	1.179	1.176	1.175	1.175	1.167
1.163	1.162	1.159	1.155	1.155	1.151	1.145	1.143	1.143	1.142
1.141	1.137	1.137	1.133	1.133	1.131	1.131	1.126	1.124	1.122
1.122	1.121	1.120	1.116	1.112	1.111	1.110	1.109	1.109	1.108
1.105	1.105	1.100	1.100	1.099	1.099	1.098	1.094	1.094	1.093
1.092	1.090	1.088	1.087	1.085	1.085	1.082	1.082	1.081	1.080
1.080	1.079	1.077	1.077	1.076	1.074	1.073	1.072	1.071	1.069
1.068	1.066	1.065	1.065	1.064	1.062	1.062	1.061	1.060	1.059
1.059	1.058	1.058	1.058	1.057	1.056	1.056	1.055	1.053	1.052
1.050	1.050	1.049	1.049	1.048	1.047	1.046	1.045	1.045	1.045

Variance ellipse statistics

Maximum variance	0.3326E+00	Direction	-33.8
Minimum variance	0.1140E-01	Direction	56.2
Total variance	0.3440E+00	Ratio of variances	0.3428E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 1.4

Average direction. maxdir +PI/2 to maxdir -PI/2 181.1

Statistics for s41113t.00582sf

	Mean	Variance	Standard deviation
Eastings	-0.0792	0.77319453E-02	0.87931484E-01
Northings	0.1174	0.10851544E-01	0.10417074E+00
Speed	0.1525	0.15340791E-01	0.12385795E+00

Vector mean speed 0.1416

Vector Mean Direction -34.0

Maximum ten values

Eastings					Northings				
0.026	0.025	0.022	0.018	0.008	0.350	0.346	0.340	0.328	0.316
0.008	0.003	0.001	-0.005	-0.005	0.303	0.285	0.272	0.256	0.238

Minimum ten values

Eastings					Northings				
-0.174	-0.177	-0.194	-0.216	-0.231	-0.016	-0.017	-0.018	-0.018	-0.019
-0.279	-0.283	-0.326	-0.335	-0.350	-0.024	-0.031	-0.034	-0.039	-0.040

Maximum speeds

0.492	0.485	0.463	0.442	0.412	0.382	0.356	0.326	0.307	0.285
0.268	0.267	0.266	0.266	0.263	0.263	0.262	0.259	0.258	0.257
0.233	0.208	0.205	0.202	0.199	0.197	0.183	0.152	0.145	0.143
0.143	0.138	0.132	0.128	0.119	0.119	0.116	0.111	0.110	0.108
0.099	0.097	0.095	0.094	0.092	0.089	0.087	0.085	0.085	0.084
0.084	0.078	0.073	0.070	0.069	0.064	0.063	0.061	0.061	0.061
0.046	0.045	0.042	0.040	0.037	0.032	0.032	0.031	0.027	0.026
0.025	0.024	0.019	0.016	0.015	0.014	0.010			

Variance ellipse statistics

Maximum variance	0.1765E-01	Direction	-39.6
Minimum variance	0.9329E-03	Direction	50.4
Total variance	0.1858E-01	Ratio of variances	0.5286E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 10.7

Average direction. maxdir +PI/2 to maxdir -PI/2 219.0

Meter information details for 9959

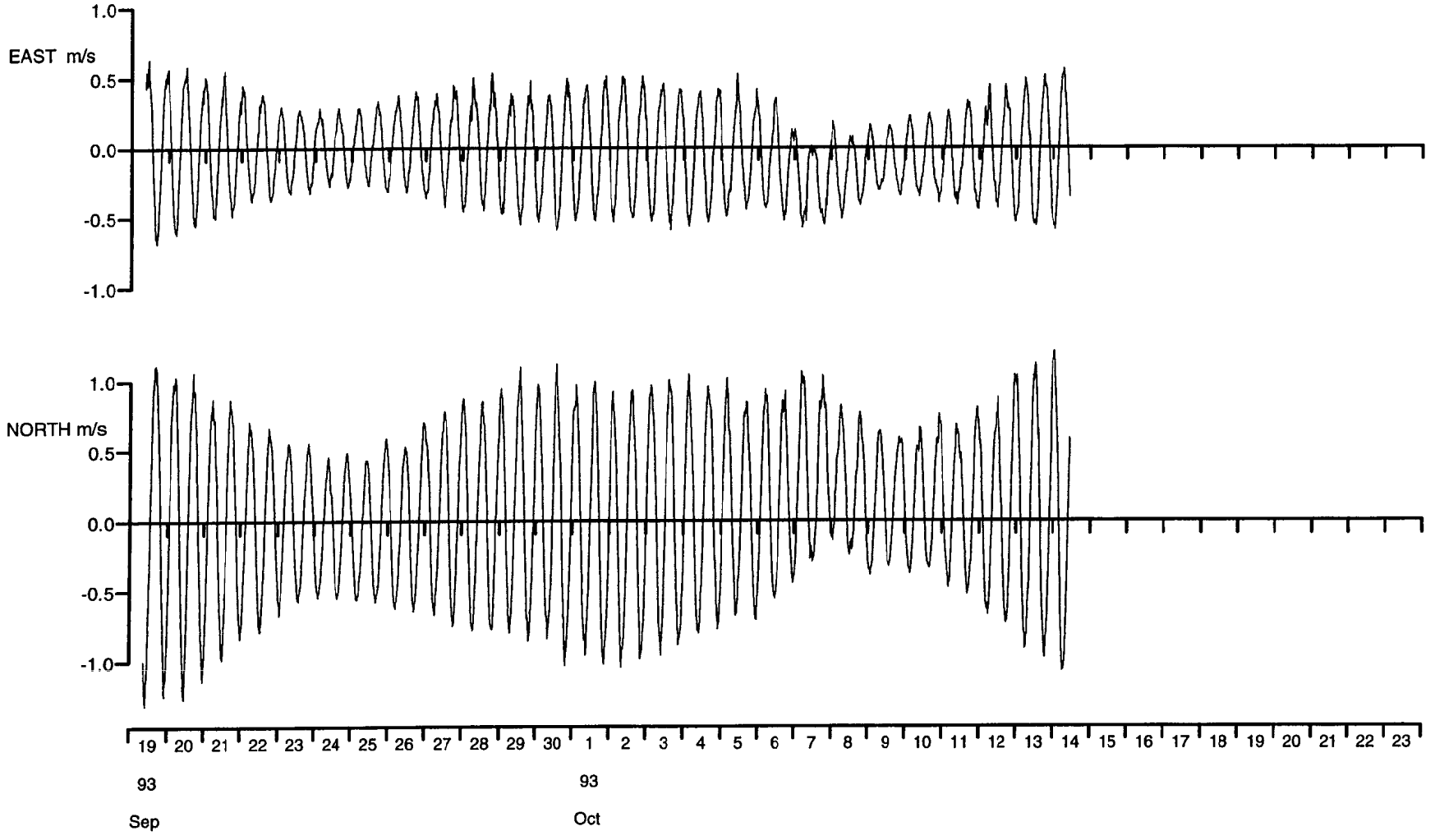
Rig No	:	00582
Meter No	:	9959
Recording interval	:	600.0 seconds
Meter height from bottom	:	165.0 m
Position of meter on rig	:	MT
Meter type	:	AS
Meter started	:	17-SEP-93 18:40:00
Meter stopped	:	06-NOV-93 16:40:00
Period switched on	:	49.9 days
Period of good data	:	25.1 days
Total number of scans	:	3612
Timing error	:	None
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 9959 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 165.0

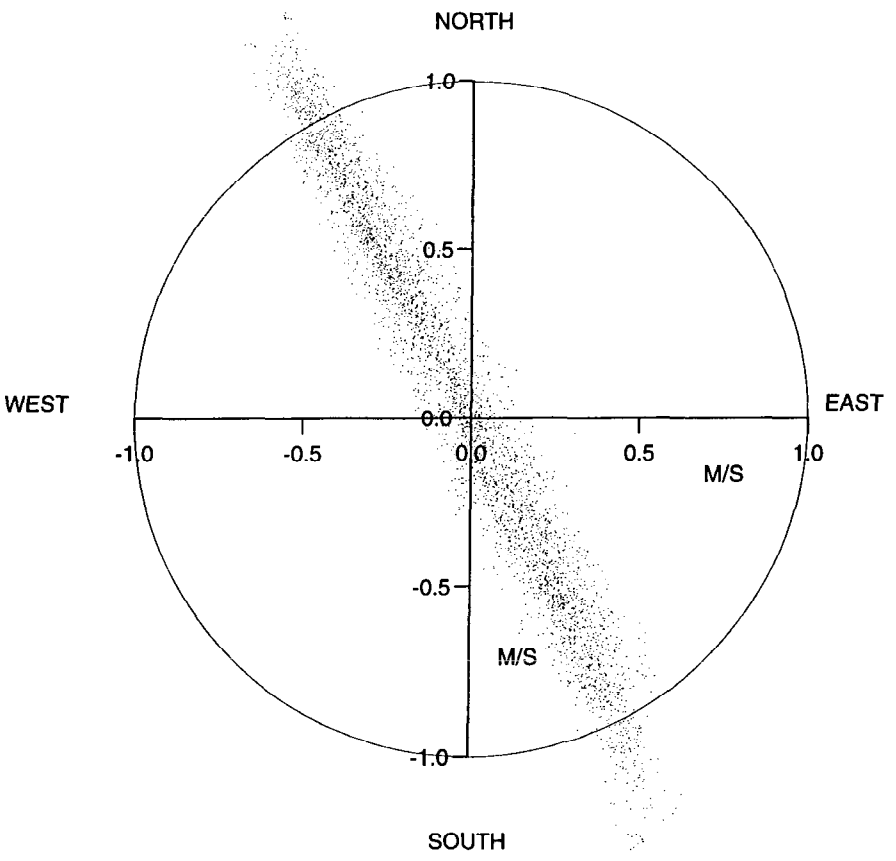


SCATTER PLOT

Meter no. 9959 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 165.0

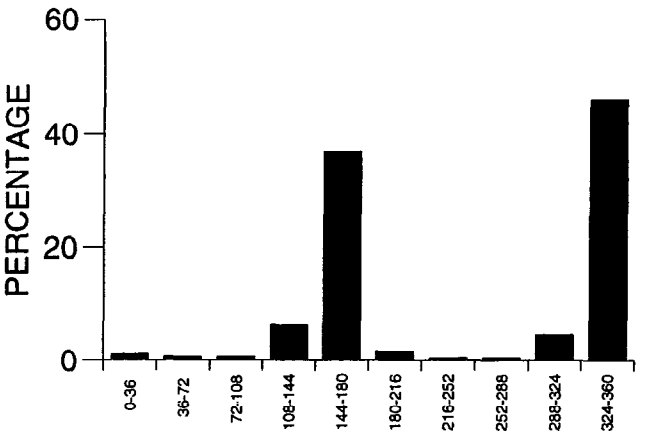


HISTOGRAMS FOR SPEEDS AND DIRECTIONS

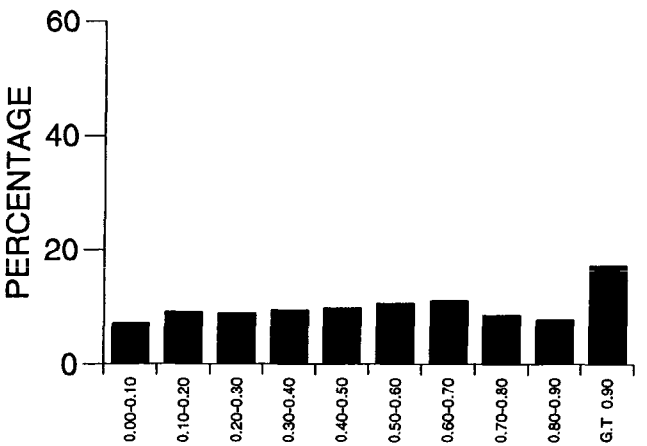
Meter no. 9959 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 165.0



DIRECTION (degrees)



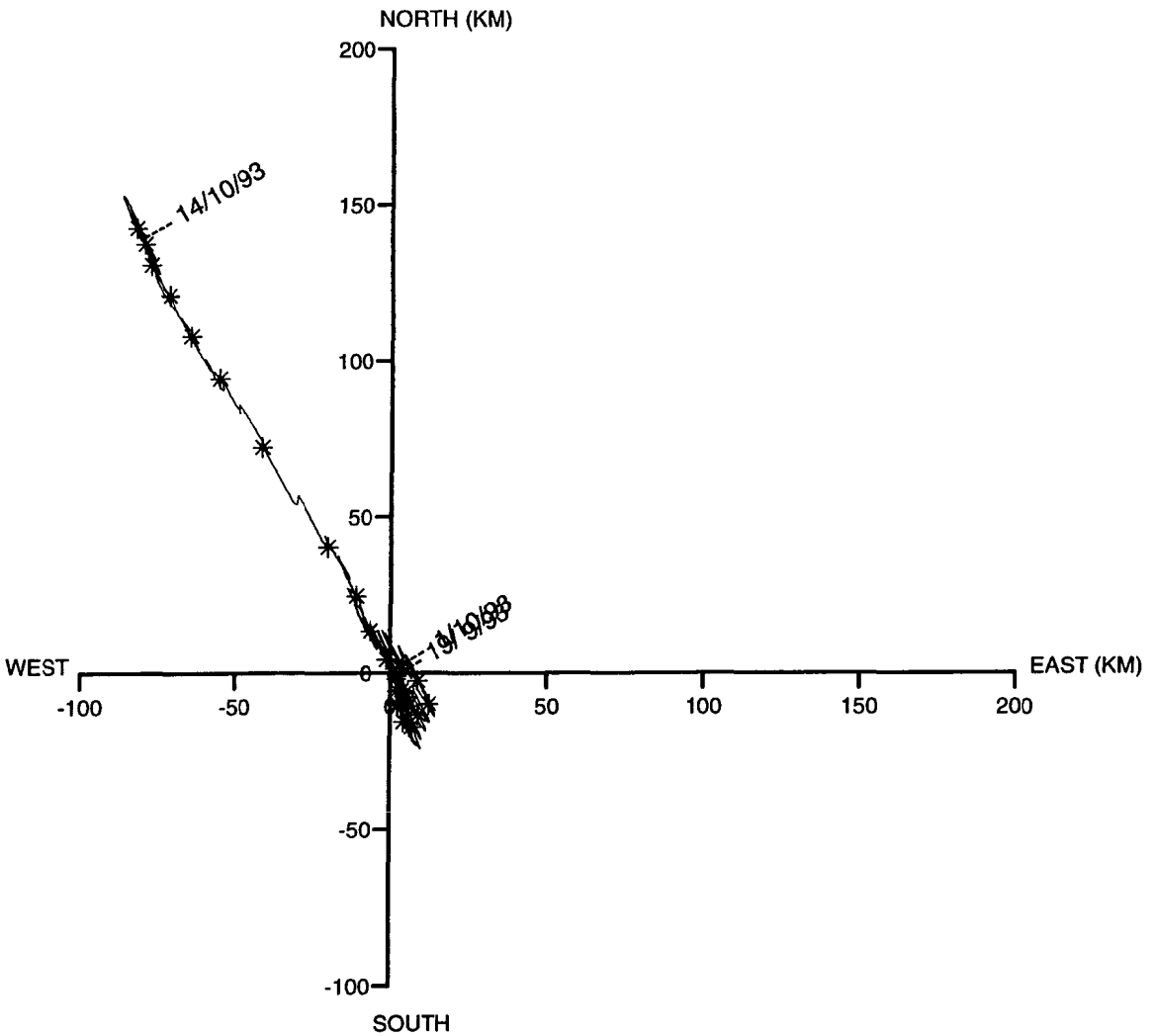
SPEED (m/s)

VECTOR PLOT

Meter no. 9959 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 165.0

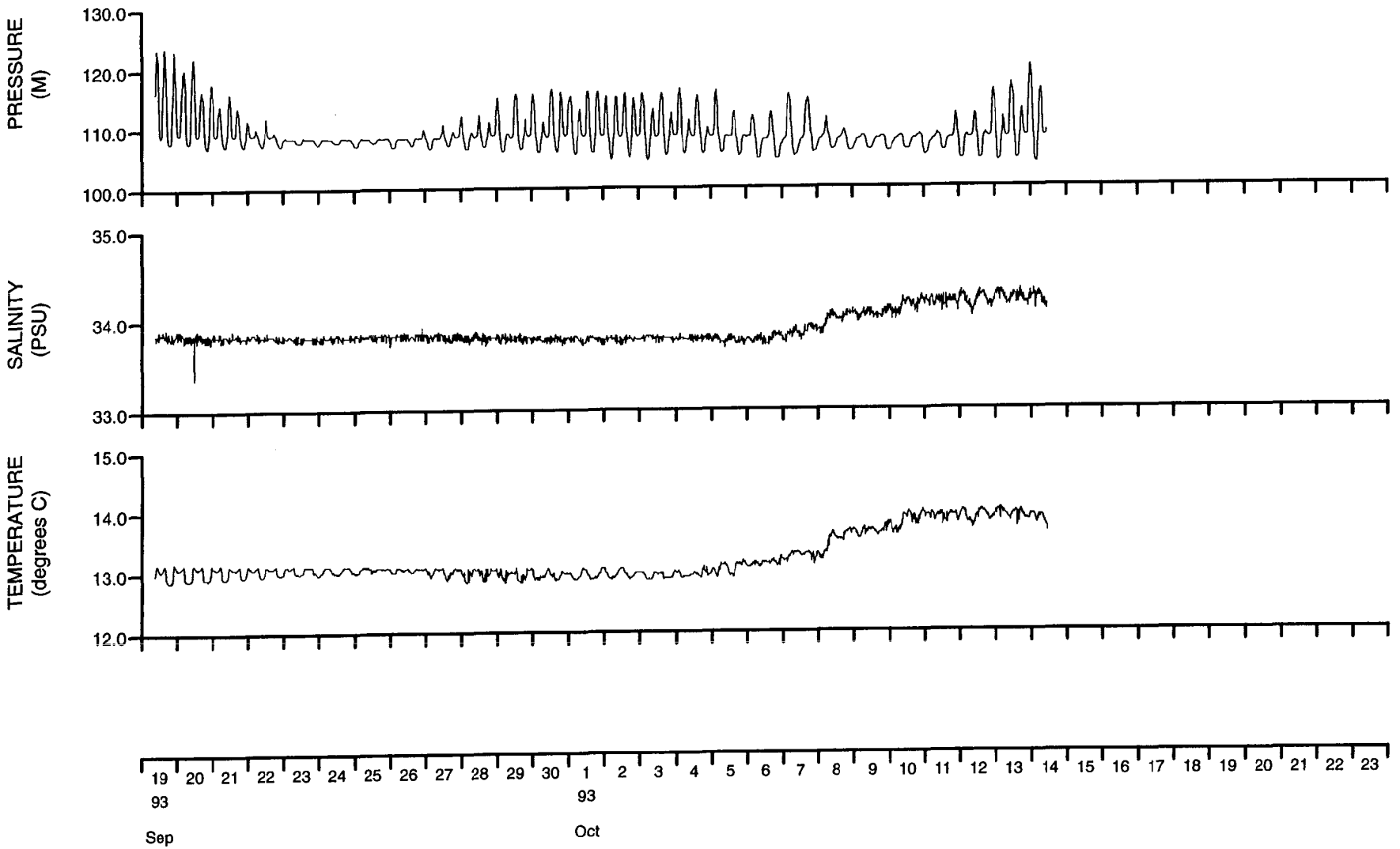


TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 9959 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 165.0



Statistics for as9959mt.00582s

	Mean	Variance	Standard deviation
Eastings	-0.0372	0.87855041E-01	0.29640350E+00
Northings	0.0646	0.31824899E+00	0.56413561E+00
Speed	0.5578	0.10040136E+00	0.31686172E+00

Vector mean speed 0.0746

Vector Mean Direction -30.0

Maximum ten values

Eastings					Northings				
0.634	0.621	0.611	0.585	0.585	1.206	1.197	1.192	1.190	1.190
0.567	0.564	0.554	0.550	0.546	1.188	1.146	1.143	1.126	1.120

Minimum ten values

Eastings					Northings				
-0.609	-0.612	-0.618	-0.648	-0.651	-1.228	-1.235	-1.236	-1.243	-1.246
-0.651	-0.653	-0.655	-0.665	-0.682	-1.251	-1.257	-1.269	-1.275	-1.310

Maximum speeds

1.397	1.365	1.362	1.356	1.356	1.351	1.348	1.339	1.330	1.330
1.327	1.325	1.322	1.319	1.319	1.316	1.316	1.313	1.307	1.307
1.301	1.295	1.293	1.284	1.281	1.281	1.278	1.278	1.275	1.272
1.269	1.266	1.266	1.261	1.258	1.255	1.252	1.249	1.249	1.246
1.246	1.240	1.240	1.234	1.232	1.226	1.223	1.223	1.220	1.220
1.220	1.217	1.214	1.214	1.214	1.211	1.208	1.205	1.205	1.205
1.202	1.202	1.197	1.194	1.191	1.191	1.191	1.191	1.188	1.188
1.188	1.185	1.182	1.179	1.179	1.176	1.176	1.176	1.176	1.173
1.170	1.170	1.170	1.170	1.168	1.168	1.168	1.165	1.165	1.162
1.162	1.159	1.159	1.159	1.156	1.156	1.153	1.153	1.150	1.150

Variance ellipse statistics

Maximum variance	0.4031E+00	Direction	-27.4
Minimum variance	0.2984E-02	Direction	62.6
Total variance	0.4061E+00	Ratio of variances	0.7403E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 0.8

Average direction. maxdir +PI/2 to maxdir -PI/2 180.4

Statistics for as9959mt.00582sf

	Mean	Variance	Standard deviation
Eastings	-0.0472	0.42291135E-02	0.65031633E-01
Northings	0.0780	0.10440949E-01	0.10218097E+00
Speed	0.1148	0.97381938E-02	0.98682292E-01

Vector mean speed 0.0911

Vector Mean Direction -31.2

Maximum ten values

Eastings					Northings				
0.038	0.035	0.028	0.024	0.023	0.363	0.360	0.334	0.327	0.283
0.023	0.022	0.019	0.018	0.016	0.272	0.224	0.214	0.170	0.166

Minimum ten values

Eastings					Northings				
-0.111	-0.128	-0.148	-0.158	-0.172	-0.039	-0.045	-0.048	-0.049	-0.049
-0.199	-0.202	-0.222	-0.229	-0.235	-0.053	-0.057	-0.060	-0.063	-0.063

Maximum speeds

0.432	0.423	0.405	0.383	0.348	0.322	0.274	0.260	0.210	0.202
0.180	0.179	0.178	0.172	0.172	0.165	0.161	0.160	0.157	0.153
0.147	0.137	0.134	0.130	0.124	0.120	0.120	0.119	0.118	0.117
0.110	0.110	0.104	0.104	0.098	0.090	0.084	0.083	0.082	0.081
0.081	0.078	0.075	0.071	0.069	0.066	0.065	0.064	0.063	0.063
0.063	0.062	0.062	0.058	0.056	0.050	0.050	0.049	0.048	0.041
0.040	0.040	0.039	0.037	0.037	0.031	0.029	0.028	0.025	0.025
0.023	0.022	0.020	0.020	0.018	0.016	0.006			

Variance ellipse statistics

Maximum variance	0.1407E-01	Direction	-31.3
Minimum variance	0.5979E-03	Direction	58.7
Total variance	0.1467E-01	Ratio of variances	0.4249E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 7.2

Average direction. maxdir +PI/2 to maxdir -PI/2 207.4

Meter information details for 9632

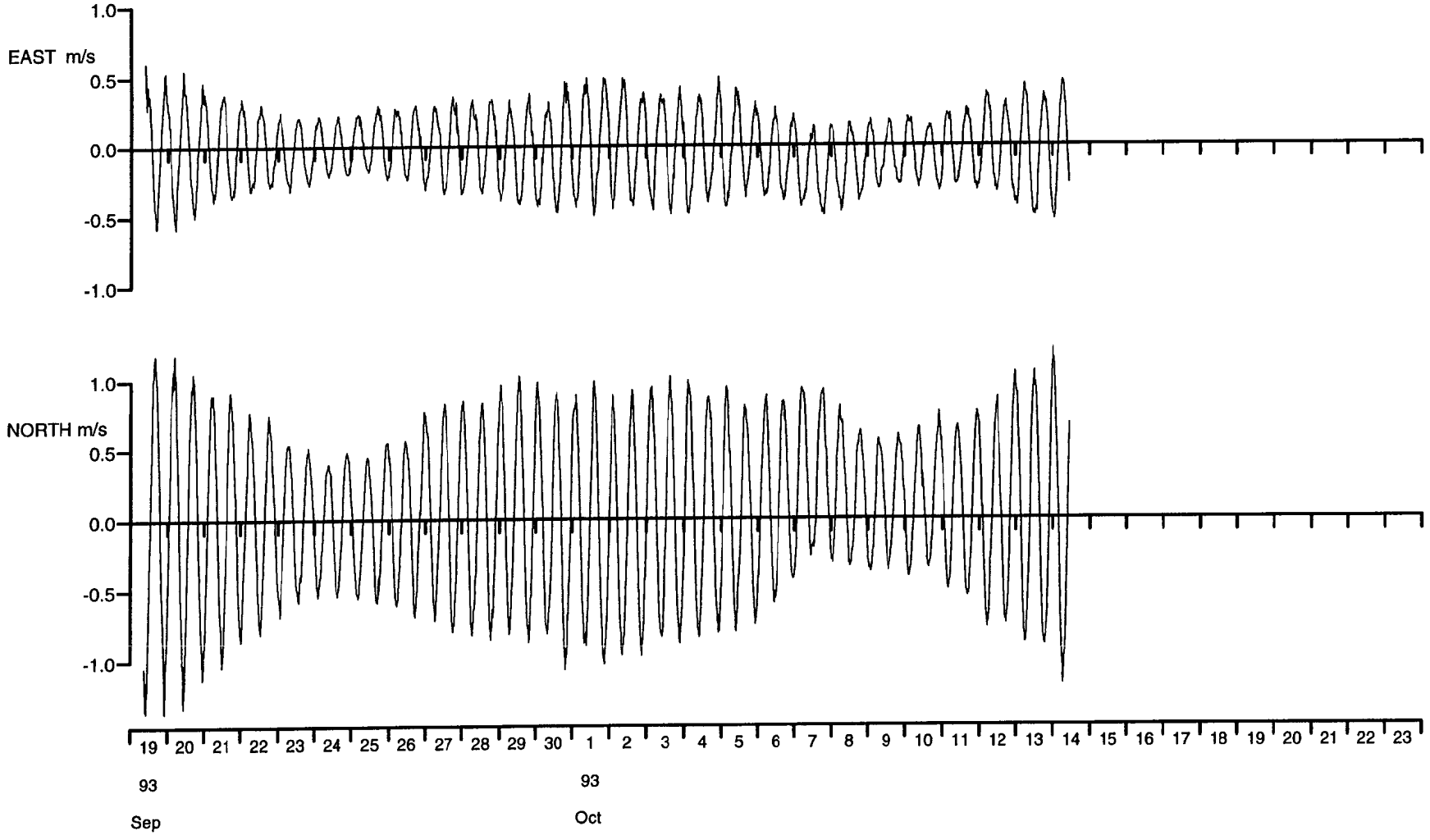
Rig No	:	00582
Meter No	:	9632
Recording interval	:	600.0 seconds
Meter height from bottom	:	95.0 m
Position of meter on rig	:	MB
Meter type	:	AS
Meter started	:	17-SEP-93 18:40:00
Meter stopped	:	06-NOV-93 16:40:00
Period switched on	:	49.9 days
Period of good data	:	25.1 days
Total number of scans	:	3612
Timing error	:	None
Comments	:	Good record obtained Pressure sensor overloaded

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 9632 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 95.0

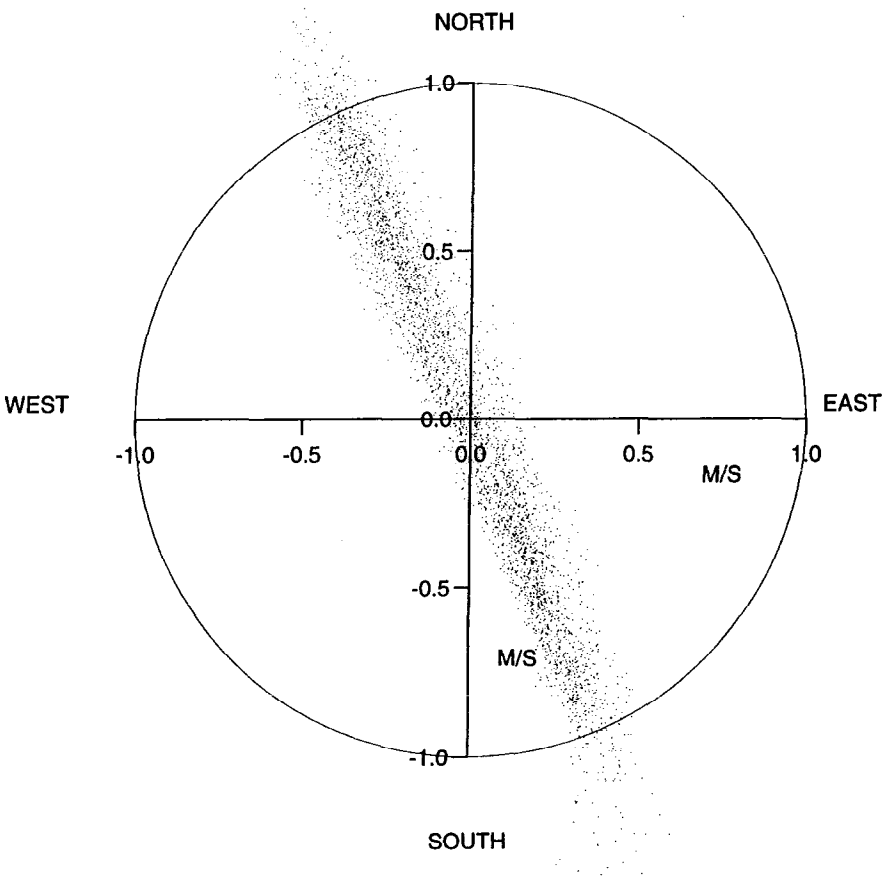


SCATTER PLOT

Meter no. 9632 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 95.0

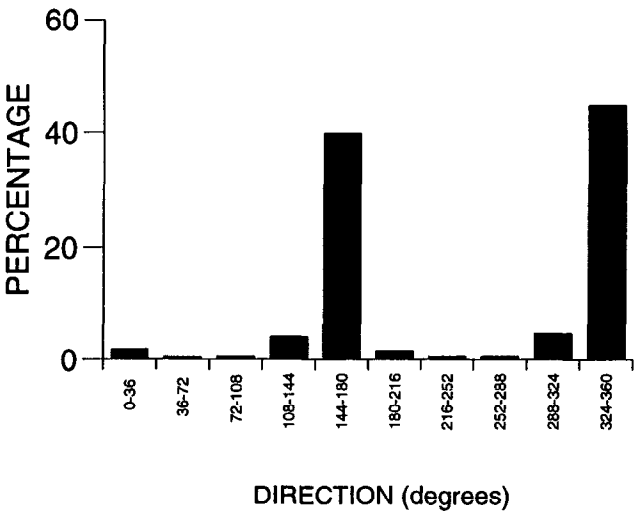


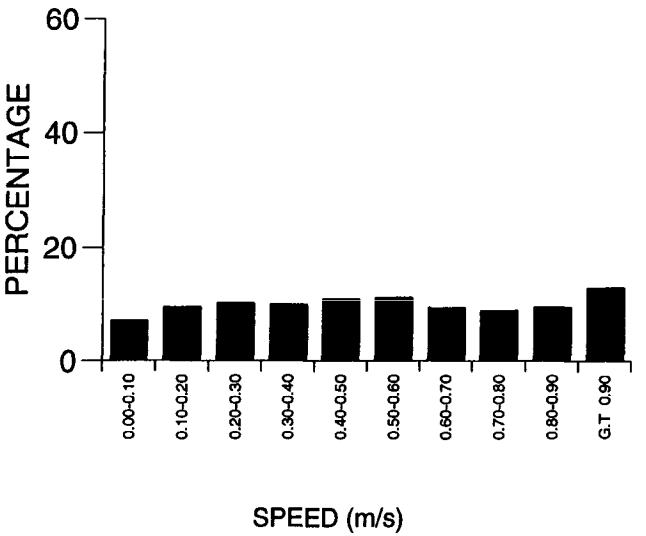
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 9632 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 95.0



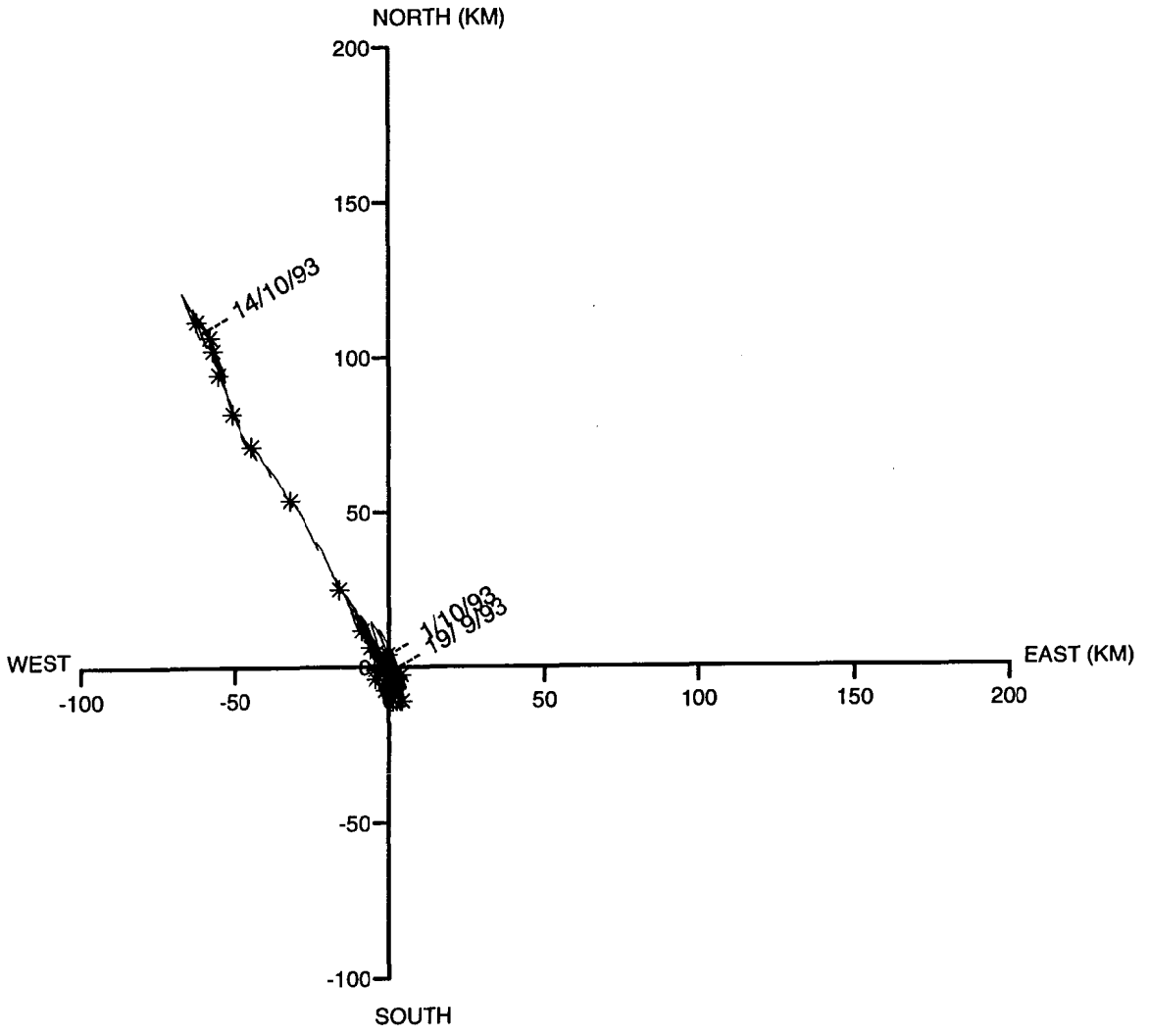


VECTOR PLOT

Meter no. 9632 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 95.0

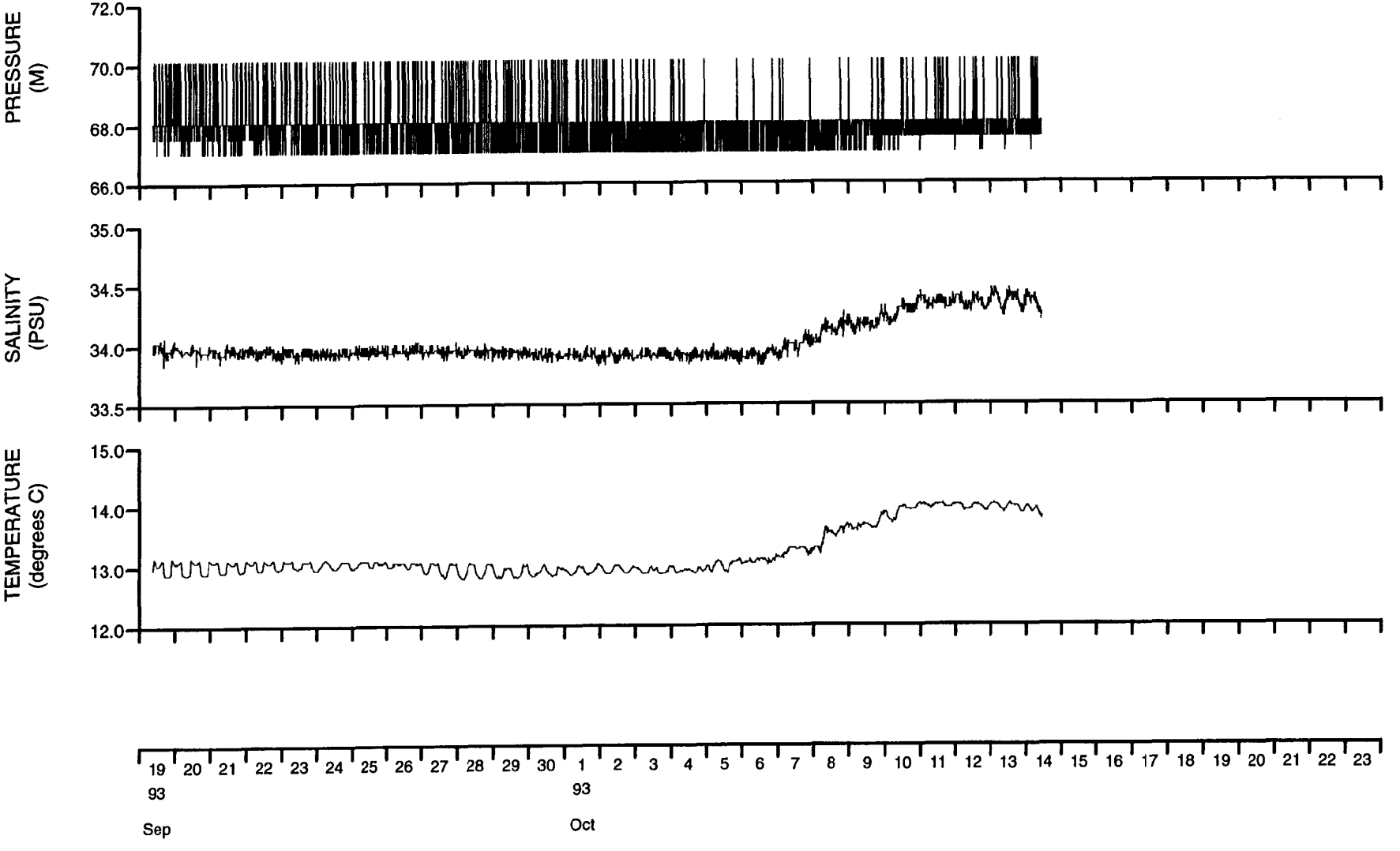


TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 9632 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 95.0



Statistics for as9632mb.00582s

	Mean	Variance	Standard deviation
Eastings	-0.0286	0.61591778E-01	0.24817692E+00
Northings	0.0499	0.31181231E+00	0.55840158E+00
Speed	0.5337	0.91837026E-01	0.30304626E+00

Vector mean speed 0.0575

Vector Mean Direction -29.8

Maximum ten values

Eastings					Northings				
0.604	0.576	0.553	0.538	0.535	1.218	1.194	1.181	1.180	1.173
0.532	0.523	0.523	0.505	0.503	1.165	1.160	1.160	1.151	1.149

Minimum ten values

Eastings					Northings				
-0.530	-0.532	-0.536	-0.540	-0.544	-1.281	-1.304	-1.314	-1.318	-1.329
-0.574	-0.575	-0.578	-0.580	-0.590	-1.339	-1.349	-1.350	-1.364	-1.370

Maximum speeds

1.470	1.447	1.409	1.394	1.394	1.391	1.380	1.377	1.368	1.345
1.339	1.333	1.325	1.325	1.322	1.319	1.319	1.304	1.298	1.298
1.295	1.287	1.281	1.281	1.272	1.266	1.263	1.263	1.261	1.258
1.252	1.246	1.240	1.237	1.237	1.234	1.234	1.232	1.229	1.226
1.217	1.217	1.214	1.197	1.197	1.197	1.185	1.185	1.185	1.182
1.179	1.179	1.176	1.176	1.176	1.168	1.168	1.162	1.162	1.159
1.159	1.156	1.153	1.153	1.153	1.153	1.150	1.147	1.147	1.141
1.141	1.141	1.139	1.136	1.133	1.127	1.127	1.124	1.124	1.121
1.121	1.121	1.121	1.118	1.118	1.118	1.118	1.109	1.109	1.109
1.107	1.107	1.107	1.107	1.107	1.107	1.104	1.104	1.101	1.101

Variance ellipse statistics

Maximum variance	0.3703E+00	Direction	-23.5
Minimum variance	0.3094E-02	Direction	66.5
Total variance	0.3734E+00	Ratio of variances	0.8356E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 -0.2

Average direction. maxdir +PI/2 to maxdir -PI/2 180.2

Statistics for as9632mb.00582sf

	Mean	Variance	Standard deviation
Eastings	-0.0338	0.28599685E-02	0.53478673E-01
Northings	0.0598	0.79850173E-02	0.89358918E-01
Speed	0.0932	0.68167555E-02	0.82563646E-01

Vector mean speed 0.0687

Vector Mean Direction -29.5

Maximum ten values

Eastings					Northings				
0.040	0.037	0.037	0.036	0.035	0.321	0.306	0.304	0.266	0.262
0.031	0.029	0.029	0.024	0.022	0.210	0.208	0.156	0.152	0.152

Minimum ten values

Eastings					Northings				
-0.085	-0.102	-0.113	-0.124	-0.143	-0.035	-0.036	-0.037	-0.038	-0.041
-0.149	-0.168	-0.171	-0.184	-0.185	-0.042	-0.064	-0.071	-0.085	-0.089

Maximum speeds

0.370	0.356	0.350	0.313	0.301	0.255	0.238	0.199	0.174	0.162
0.158	0.156	0.154	0.140	0.140	0.128	0.124	0.120	0.119	0.115
0.115	0.114	0.109	0.109	0.095	0.093	0.093	0.092	0.081	0.075
0.073	0.073	0.073	0.072	0.072	0.072	0.071	0.069	0.069	0.063
0.063	0.062	0.062	0.056	0.055	0.053	0.050	0.048	0.047	0.047
0.046	0.046	0.044	0.043	0.043	0.042	0.042	0.039	0.038	0.037
0.037	0.037	0.036	0.036	0.035	0.035	0.034	0.033	0.031	0.027
0.025	0.024	0.022	0.017	0.012	0.012	0.007			

Variance ellipse statistics

Maximum variance	0.1041E-01	Direction	-29.5
Minimum variance	0.4397E-03	Direction	60.5
Total variance	0.1084E-01	Ratio of variances	0.4226E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 4.4

Average direction. maxdir +PI/2 to maxdir -PI/2 183.7

Meter information details for 9631

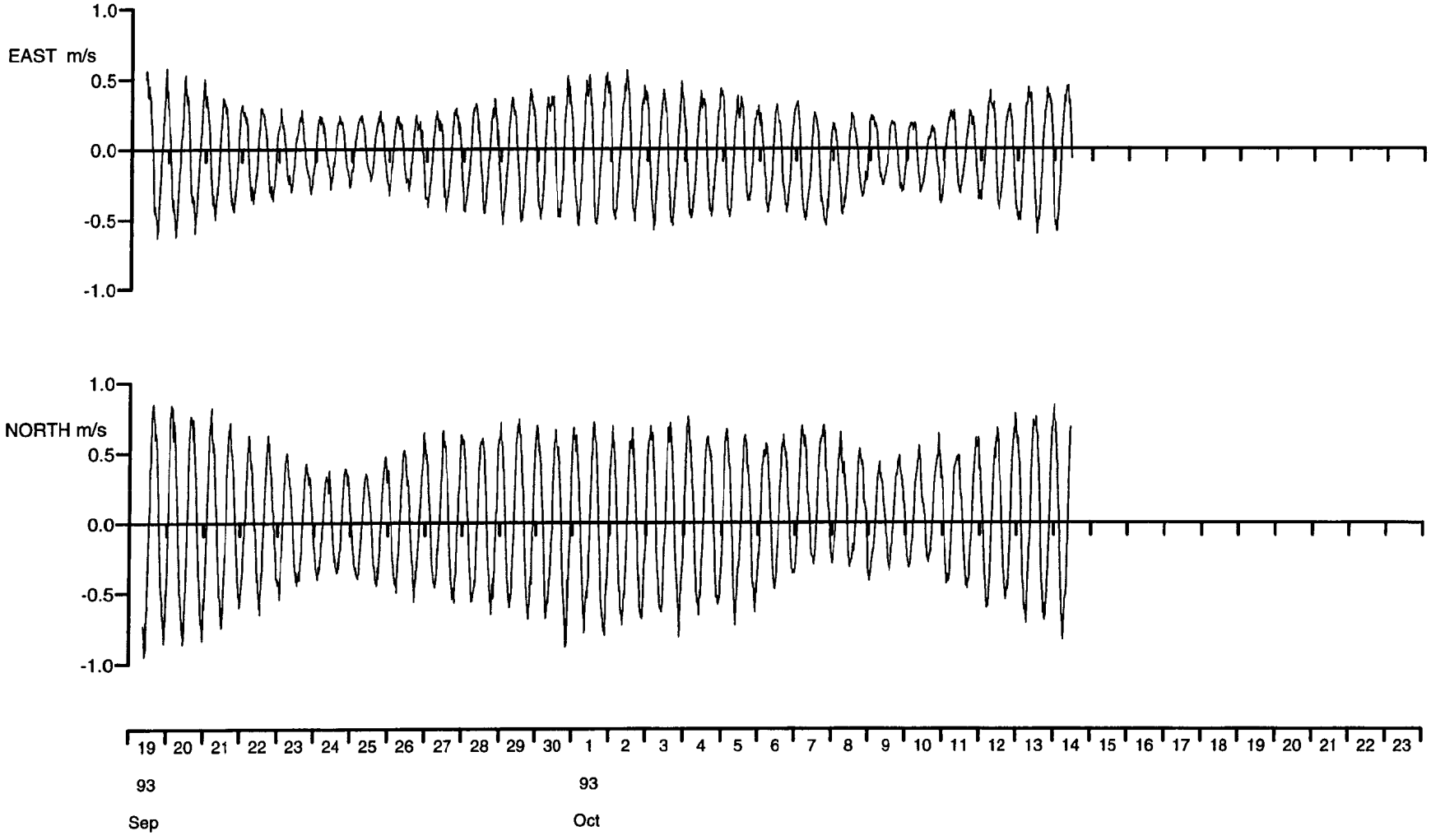
Rig No	:	00582
Meter No	:	9631
Recording interval	:	600.0 seconds
Meter height from bottom	:	20.0 m
Position of meter on rig	:	B
Meter type	:	AS
Meter started	:	17-SEP-93 18:30:00
Meter stopped	:	06-NOV-93 17:00:00
Period switched on	:	49.9 days
Period of good data	:	25.1 days
Total number of scans	:	3612
Timing error	:	None
Comments	:	Good record obtained Pressure sensor overloaded

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 9631 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 20.0

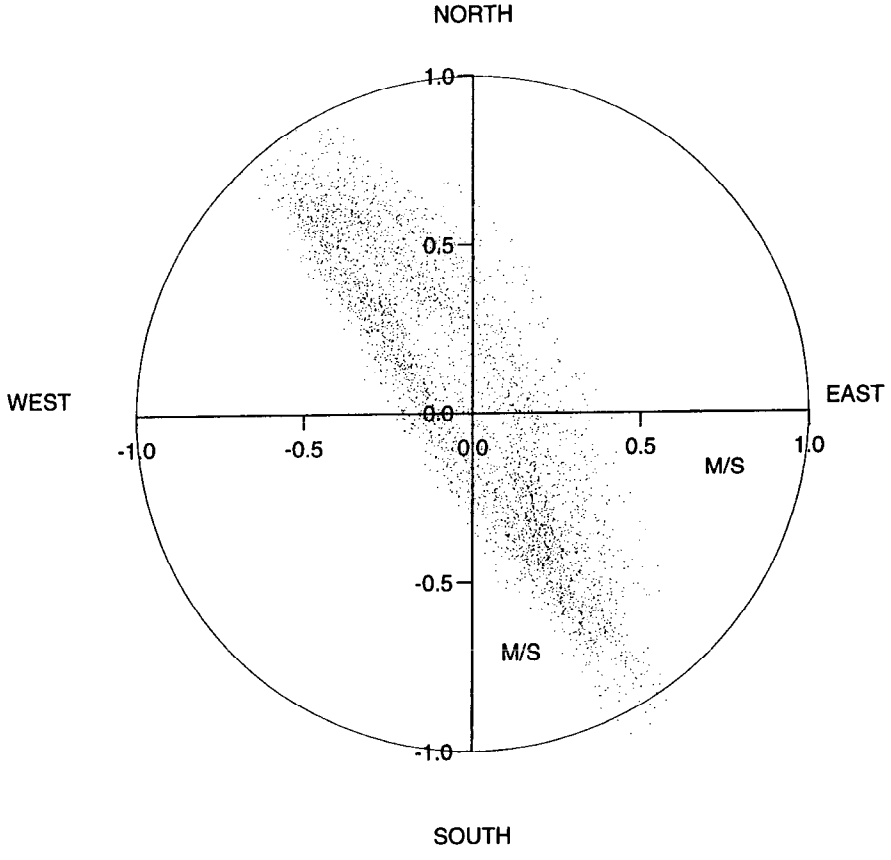


SCATTER PLOT

Meter no. 9631 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 20.0

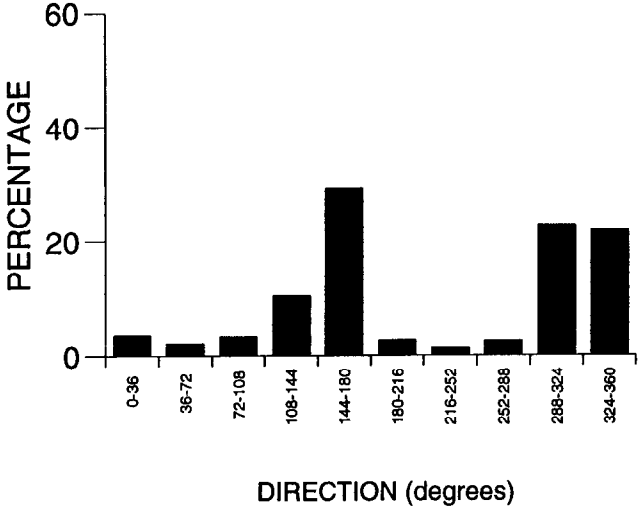


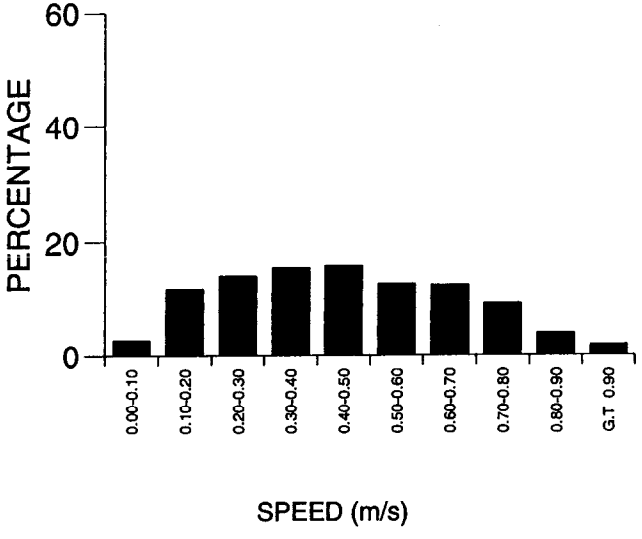
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 9631 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 20.0



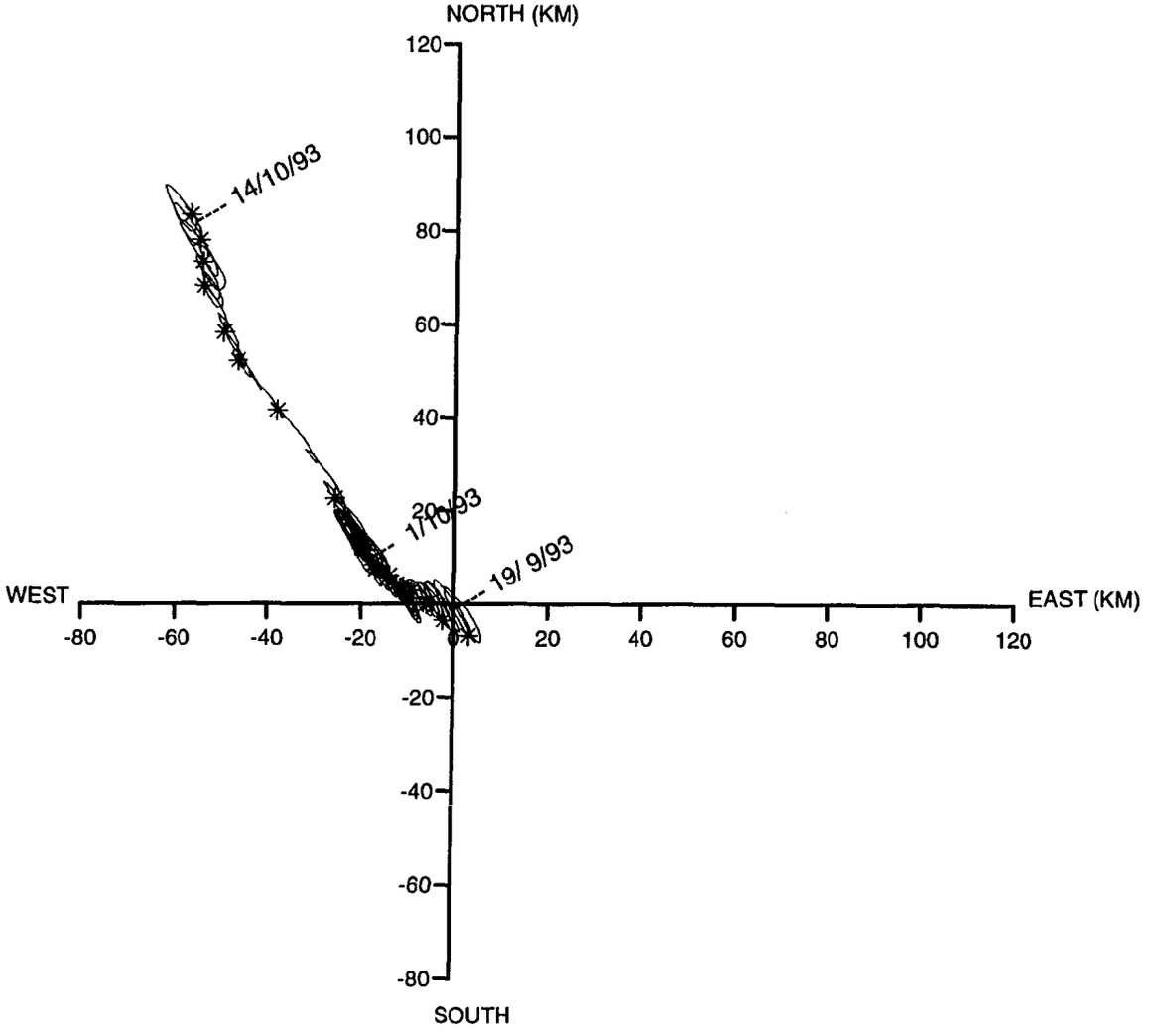


VECTOR PLOT

Meter no. 9631 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 20.0

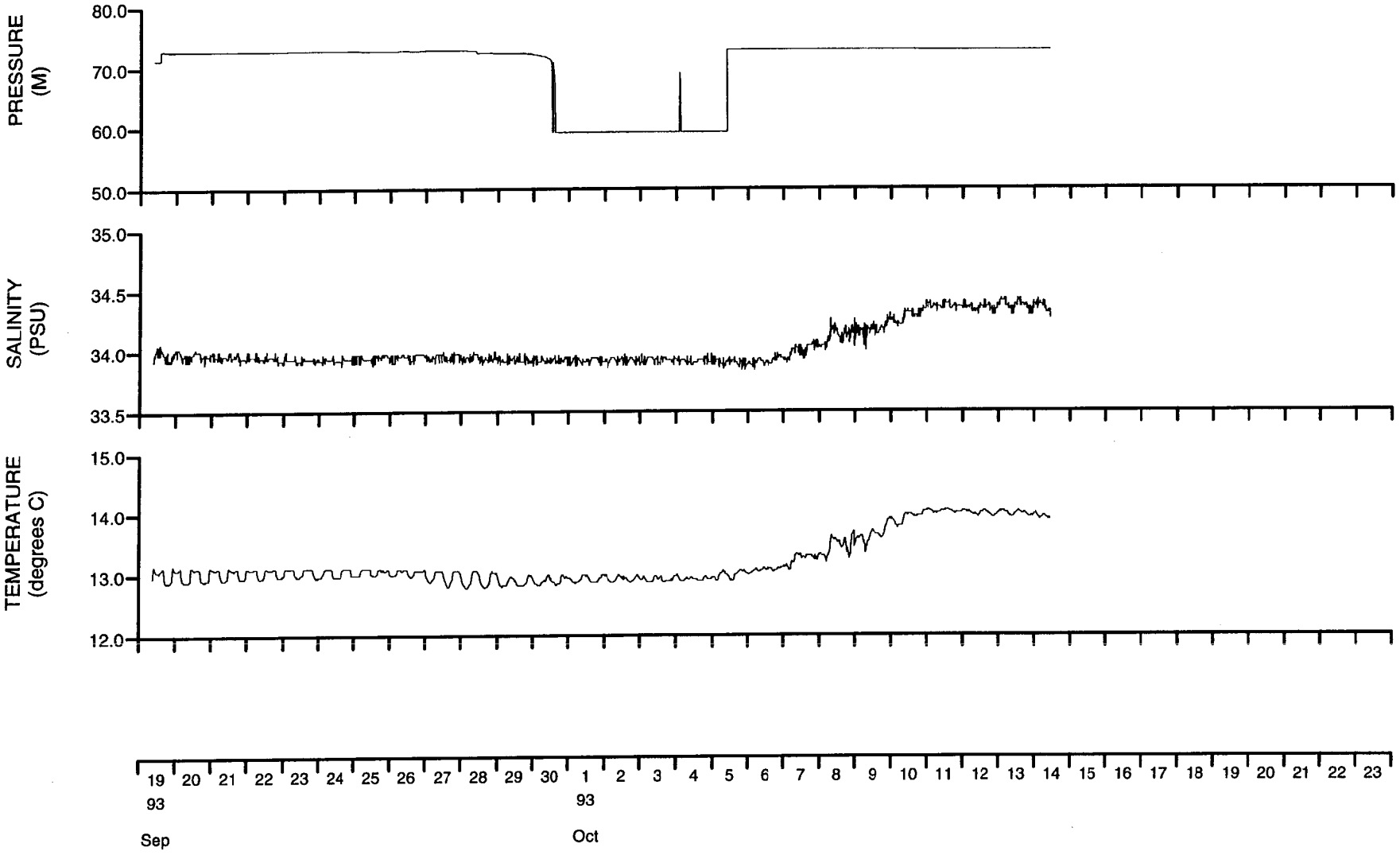


TEMPERATURE,SALINITY AND PRESSURE TIME SERIES PLOTS

Meter no. 9631 Rig no. 00582 Depth of water(m) 275.0

Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00

Position 54 47.25N 05 17.33W Meter Height(m) 20.0



Statistics for as9631b.00582s

	Mean	Variance	Standard deviation
Eastings	-0.0259	0.74360684E-01	0.27269155E+00
Northings	0.0380	0.17320624E+00	0.41618052E+00
Speed	0.4503	0.46857394E-01	0.21646568E+00

Vector mean speed 0.0460

Vector Mean Direction -34.4

Maximum ten values

Eastings					Northings				
0.578	0.560	0.559	0.558	0.553	0.847	0.842	0.840	0.839	0.829
0.550	0.544	0.541	0.531	0.530	0.820	0.816	0.815	0.811	0.811

Minimum ten values

Eastings					Northings				
-0.581	-0.587	-0.590	-0.597	-0.599	-0.850	-0.852	-0.856	-0.864	-0.875
-0.610	-0.611	-0.618	-0.628	-0.635	-0.876	-0.889	-0.913	-0.924	-0.951

Maximum speeds

1.066	1.063	1.031	1.028	1.028	1.014	1.011	0.996	0.990	0.990
0.985	0.979	0.970	0.961	0.958	0.955	0.955	0.955	0.955	0.953
0.953	0.953	0.950	0.950	0.947	0.947	0.944	0.938	0.938	0.935
0.935	0.932	0.929	0.929	0.926	0.926	0.926	0.923	0.923	0.923
0.923	0.923	0.921	0.921	0.921	0.921	0.918	0.918	0.915	0.915
0.915	0.912	0.912	0.912	0.909	0.906	0.906	0.906	0.906	0.903
0.903	0.903	0.900	0.900	0.900	0.894	0.894	0.894	0.894	0.892
0.892	0.892	0.889	0.889	0.889	0.889	0.889	0.886	0.886	0.886
0.886	0.883	0.883	0.883	0.880	0.880	0.877	0.877	0.874	0.874
0.874	0.871	0.871	0.871	0.871	0.871	0.871	0.868	0.868	0.868

Variance ellipse statistics

Maximum variance	0.2359E+00	Direction	-31.9
Minimum variance	0.1167E-01	Direction	58.1
Total variance	0.2476E+00	Ratio of variances	0.4946E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 1.5

Average direction. maxdir +PI/2 to maxdir -PI/2 179.3

Statistics for as9631b.00582sf

	Mean	Variance	Standard deviation
Eastings	-0.0284	0.16182526E-02	0.40227510E-01
Northings	0.0403	0.32316472E-02	0.56847576E-01
Speed	0.0635	0.32283920E-02	0.56818943E-01

Vector mean speed 0.0493

Vector Mean Direction -35.2

Maximum ten values

Eastings					Northings				
0.054	0.048	0.048	0.033	0.032	0.208	0.203	0.194	0.175	0.166
0.015	0.015	0.014	0.013	0.012	0.133	0.132	0.117	0.116	0.106

Minimum ten values

Eastings					Northings				
-0.053	-0.056	-0.072	-0.074	-0.099	-0.016	-0.018	-0.018	-0.023	-0.023
-0.106	-0.128	-0.138	-0.149	-0.154	-0.023	-0.040	-0.041	-0.054	-0.054

Maximum speeds

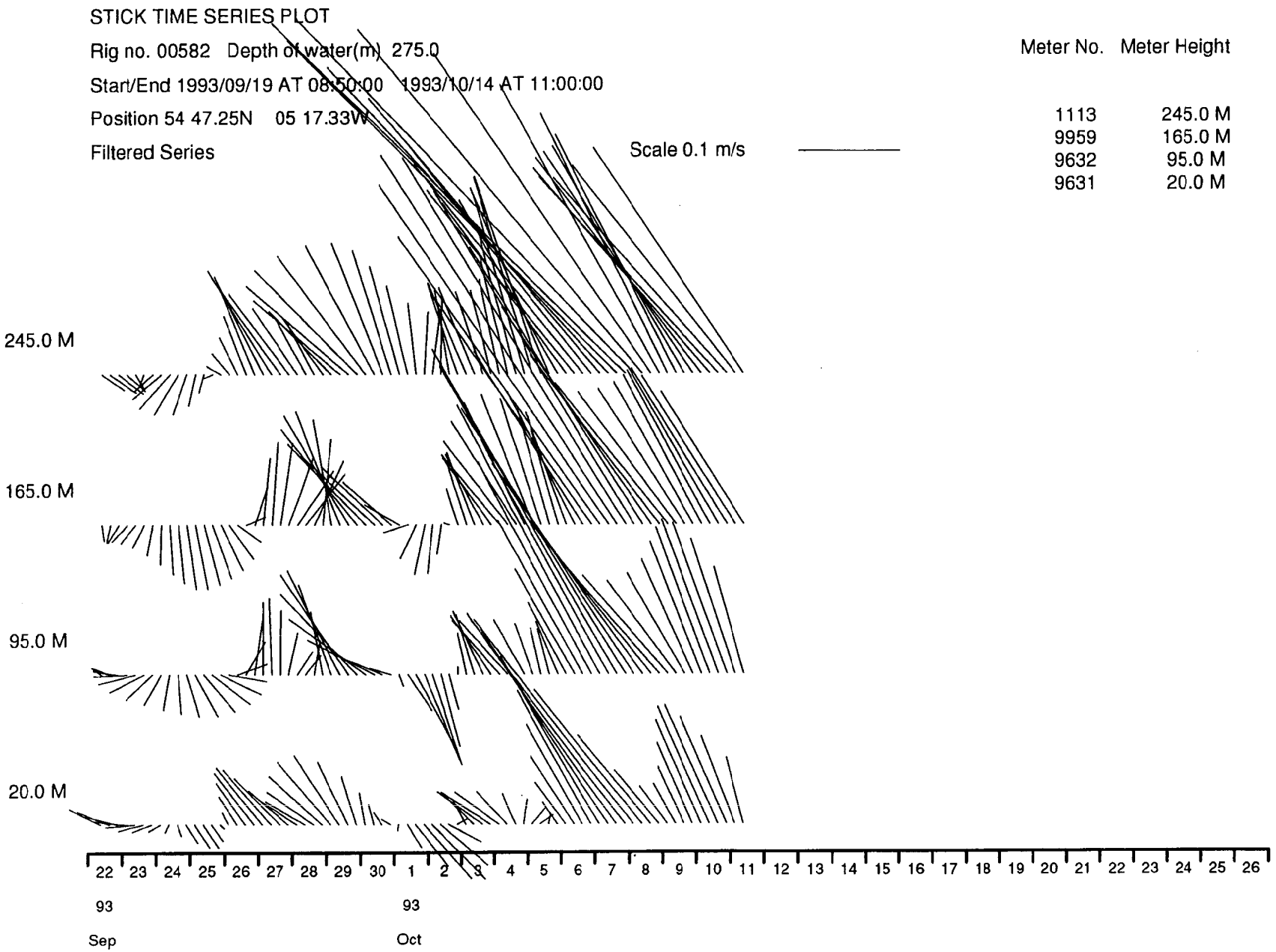
0.256	0.254	0.232	0.223	0.193	0.170	0.151	0.128	0.127	0.115
0.113	0.113	0.112	0.093	0.087	0.082	0.082	0.080	0.076	0.073
0.073	0.072	0.071	0.069	0.069	0.067	0.065	0.064	0.062	0.062
0.059	0.056	0.056	0.054	0.053	0.052	0.051	0.051	0.050	0.046
0.045	0.045	0.045	0.045	0.044	0.037	0.035	0.034	0.033	0.033
0.033	0.032	0.031	0.029	0.028	0.027	0.027	0.026	0.026	0.025
0.024	0.021	0.020	0.020	0.020	0.020	0.015	0.014	0.014	0.013
0.012	0.012	0.010	0.010	0.008	0.006	0.005			

Variance ellipse statistics

Maximum variance	0.4673E-02	Direction	-34.5
Minimum variance	0.1771E-03	Direction	55.5
Total variance	0.4850E-02	Ratio of variances	0.3791E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 1.0

Average direction. maxdir +PI/2 to maxdir -PI/2 177.5


STICK TIME SERIES PLOT
Rig no. 00582 Depth of water(m) 275.0
Start/End 1993/09/19 AT 08:50:00 1993/10/14 AT 11:00:00
Position 54 47.25N 05 17.33W
Filtered Series
Scale 0.1 m/s
Meter No. Meter Height
1113 245.0 M
9959 165.0 M
9632 95.0 M
9631 20.0 M
245.0 M
165.0 M
95.0 M
20.0 M
22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
93
Sep
93
Oct

Rig information details for 00578

Position Latitude	:	54 45.48N
Position Longitude	:	05 22.00W
Water depth	:	138.0 m
Deployed on cruise	:	C106
Recovered on cruise	:	C106
Site name identification	:	EB1
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	18-SEP-93 18:40:00
Rig recovered on	:	24-SEP-93 07:08:00
Period of deployment	:	5.5 days
Comments	:	Launch and recovery successful however mooring moved from original position The mooring moved 9.5 km in a direction of 330 degrees

Meter information details for 1196

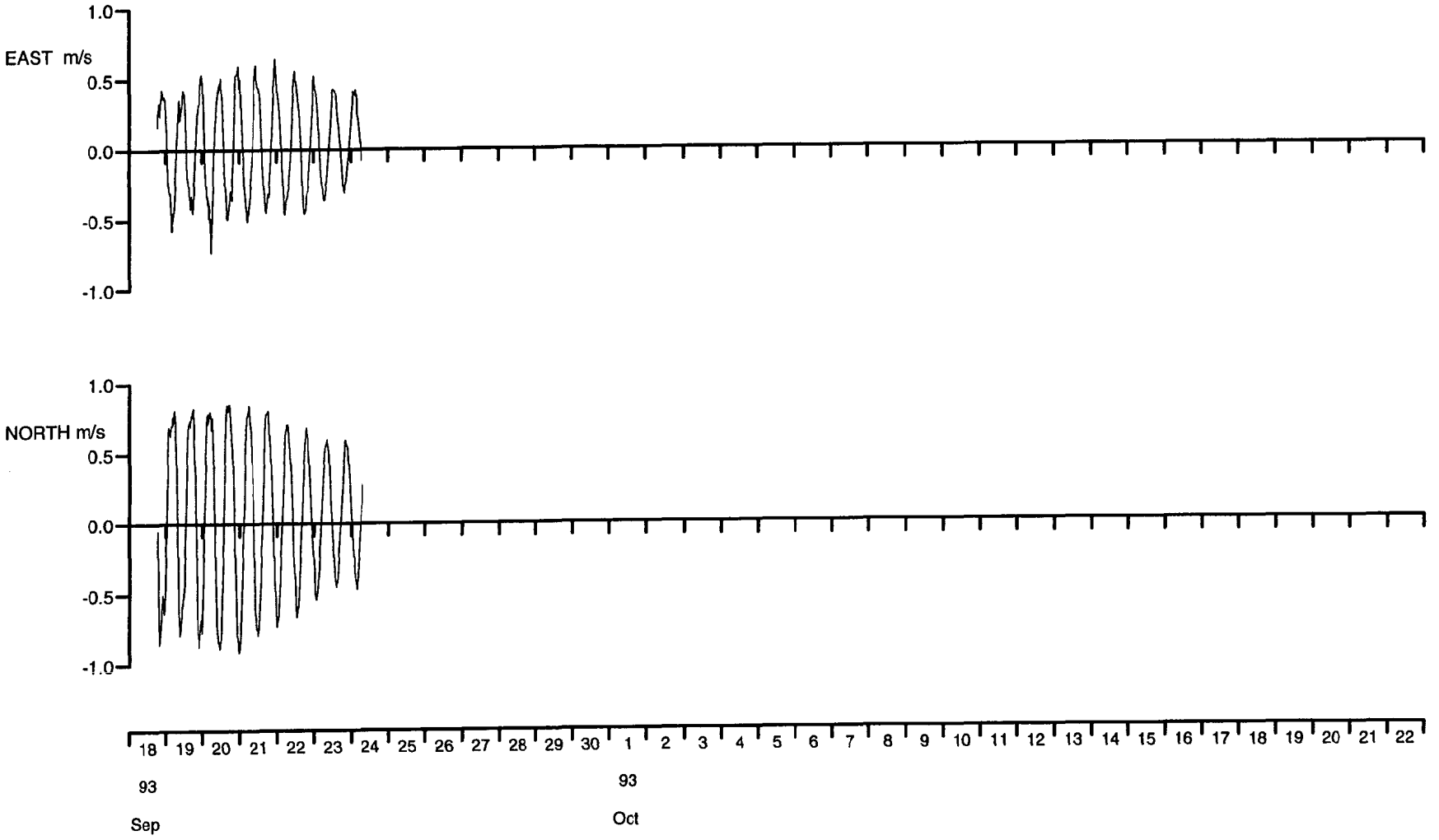
Rig No	:	00578
Meter No	:	1196
Recording interval	:	600.0 seconds
Meter depth	:	5.0 m
Position of meter on rig	:	T
Meter type	:	S4
Meter started	:	18-SEP-93 13:28:00
Meter stopped	:	24-SEP-93 08:58:00
Period switched on	:	5.8 days
Period of good data	:	5.5 days
Total number of scans	:	794
Timing error	:	None
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1196 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 5.0

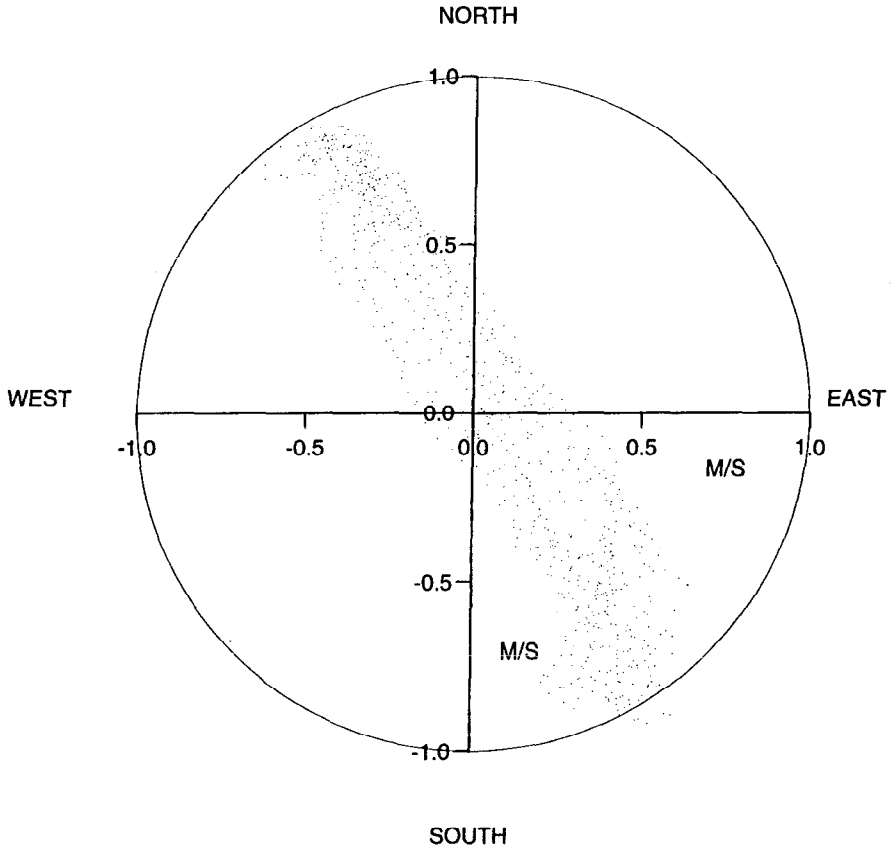


SCATTER PLOT

Meter no. 1196 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 5.0

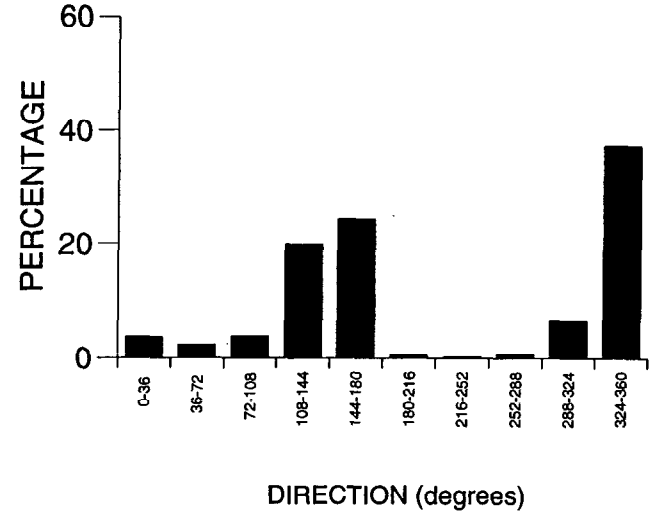


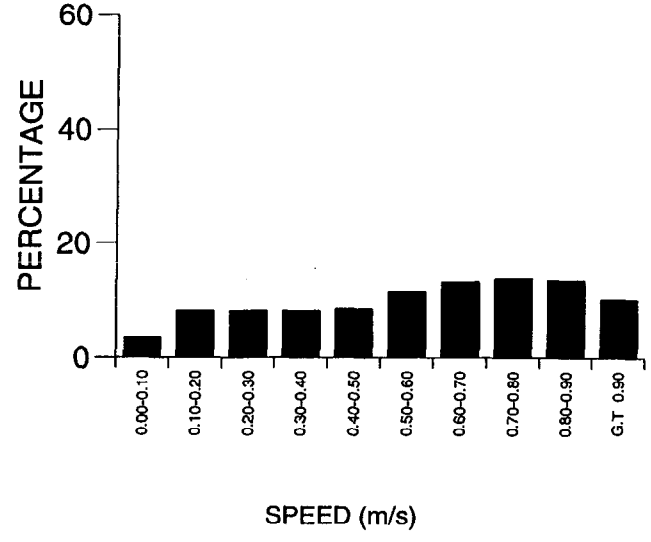
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 1196 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 5.0



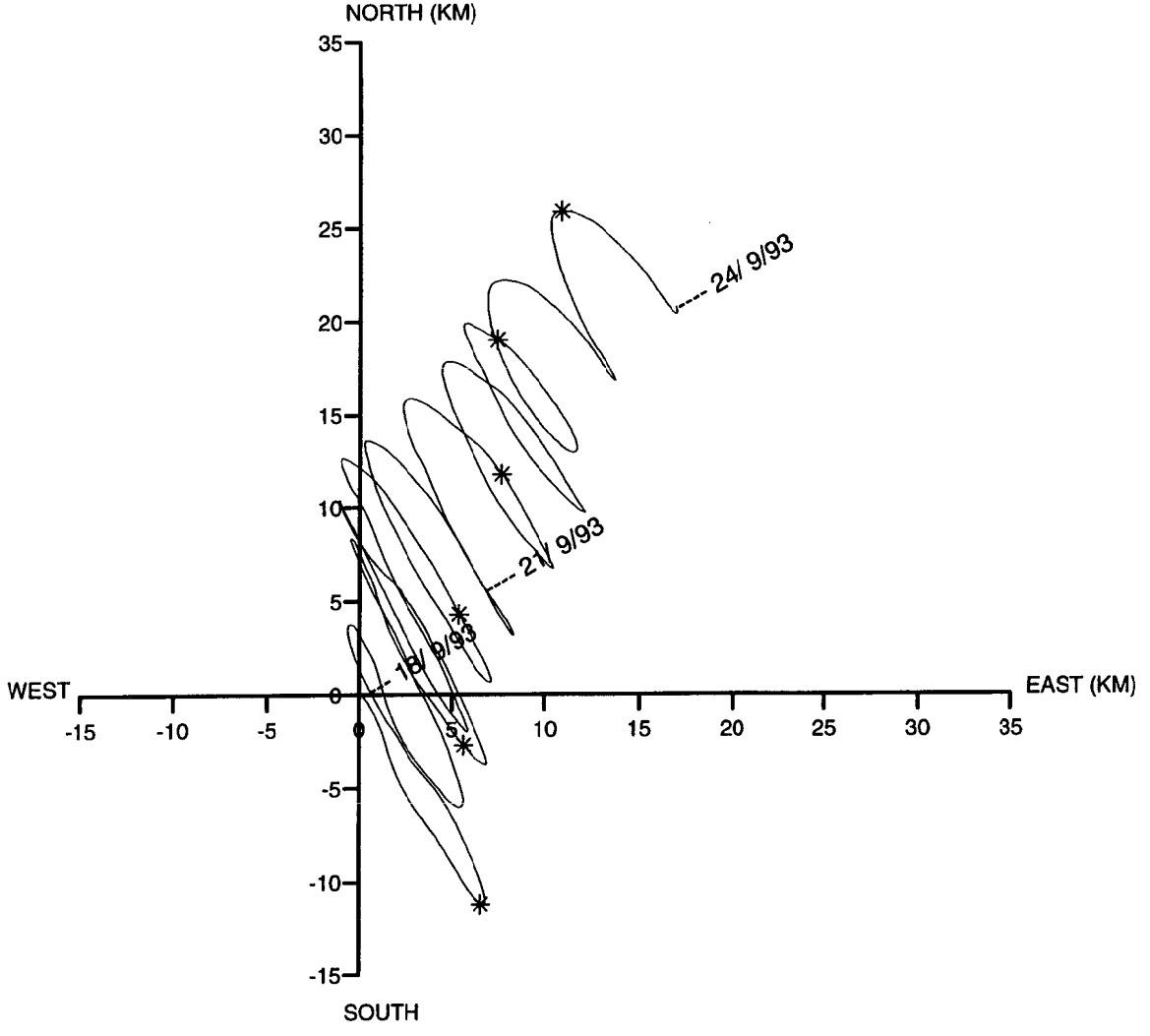


VECTOR PLOT

Meter no. 1196 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 5.0



Statistics for s41196t.00578s

	Mean	Variance	Standard deviation
Eastings	0.0356	0.10973939E+00	0.33126938E+00
Northings	0.0436	0.28717992E+00	0.53589171E+00
Speed	0.5745	0.69635212E-01	0.26388484E+00

Vector mean speed 0.0563

Vector Mean Direction 39.2

Maximum ten values

Eastings					Northings				
0.643	0.641	0.616	0.604	0.599	0.850	0.849	0.849	0.846	0.844
0.598	0.594	0.580	0.576	0.575	0.841	0.839	0.824	0.823	0.823

Minimum ten values

Eastings					Northings				
-0.530	-0.531	-0.564	-0.581	-0.583	-0.861	-0.871	-0.874	-0.878	-0.889
-0.584	-0.628	-0.629	-0.694	-0.734	-0.891	-0.891	-0.905	-0.906	-0.915

Maximum speeds

1.071	1.059	1.056	1.033	1.030	1.002	0.996	0.993	0.987	0.985
0.984	0.982	0.981	0.981	0.980	0.979	0.976	0.975	0.971	0.967
0.966	0.964	0.964	0.963	0.961	0.953	0.952	0.951	0.950	0.949
0.946	0.944	0.943	0.942	0.941	0.941	0.940	0.940	0.940	0.937
0.937	0.936	0.935	0.935	0.934	0.932	0.930	0.930	0.928	0.928
0.927	0.927	0.925	0.924	0.924	0.924	0.922	0.921	0.921	0.920
0.919	0.919	0.917	0.916	0.913	0.913	0.913	0.912	0.912	0.912
0.912	0.911	0.907	0.906	0.904	0.902	0.902	0.901	0.901	0.901
0.900	0.898	0.897	0.896	0.896	0.895	0.895	0.894	0.894	0.893
0.893	0.892	0.892	0.891	0.891	0.890	0.889	0.889	0.889	0.887

Variance ellipse statistics

Maximum variance	0.3867E+00	Direction	-30.9
Minimum variance	0.1019E-01	Direction	59.1
Total variance	0.3969E+00	Ratio of variances	0.2635E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 8.7

Average direction. maxdir +PI/2 to maxdir -PI/2 169.6

Meter information details for 1112

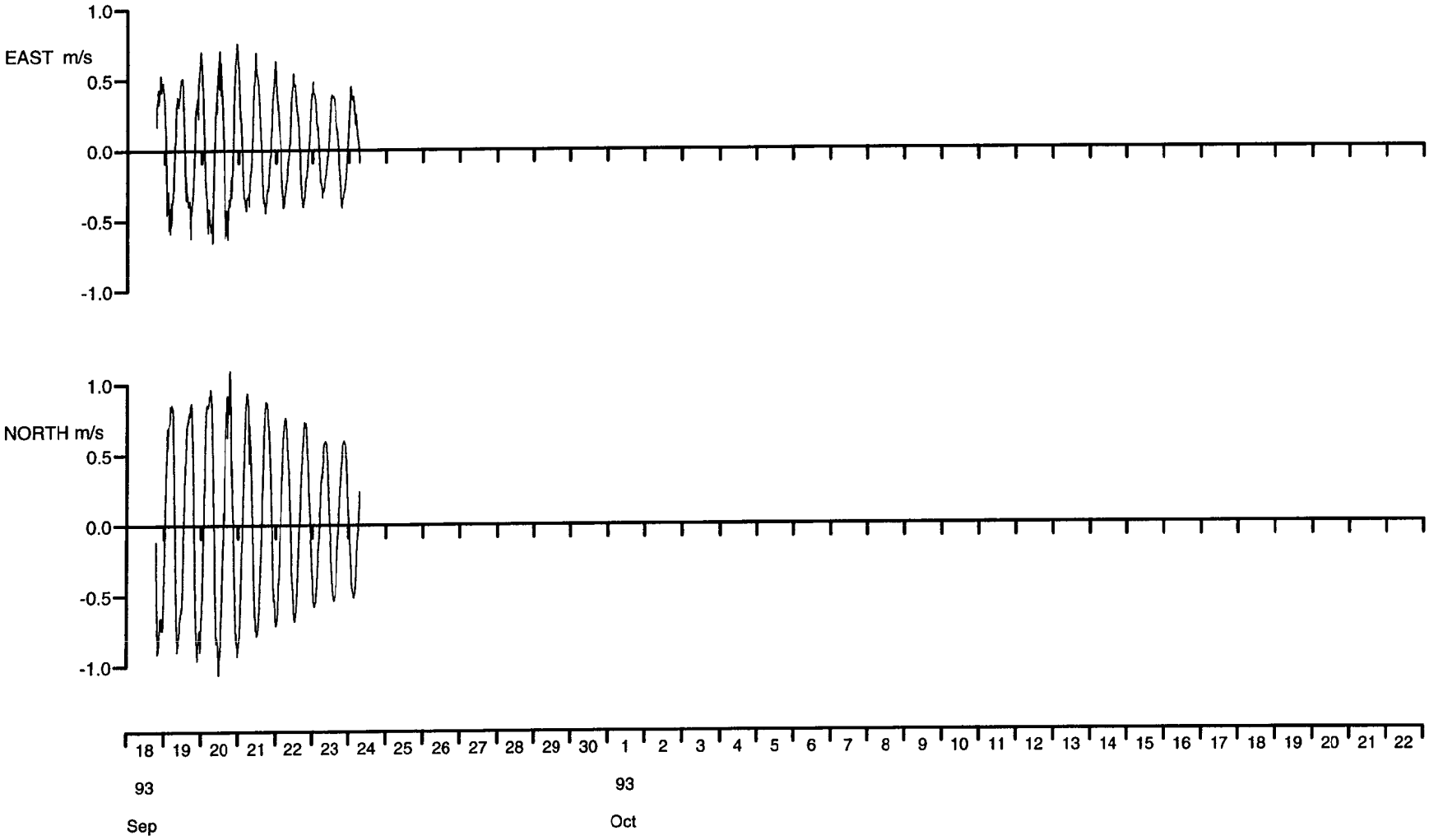
Rig No	:	00578
Meter No	:	1112
Recording interval	:	600.0 seconds
Meter depth	:	15.0 m
Position of meter on rig	:	B
Meter type	:	S4
Meter started	:	18-SEP-93 11:50:00
Meter stopped	:	24-SEP-93 07:20:00
Period switched on	:	5.8 days
Period of good data	:	5.5 days
Total number of scans	:	794
Timing error	:	None
Comments	:	Good record obtained Spikes edited out of raw data file East - 4 spikes North - 12 spikes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1112 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 15.0

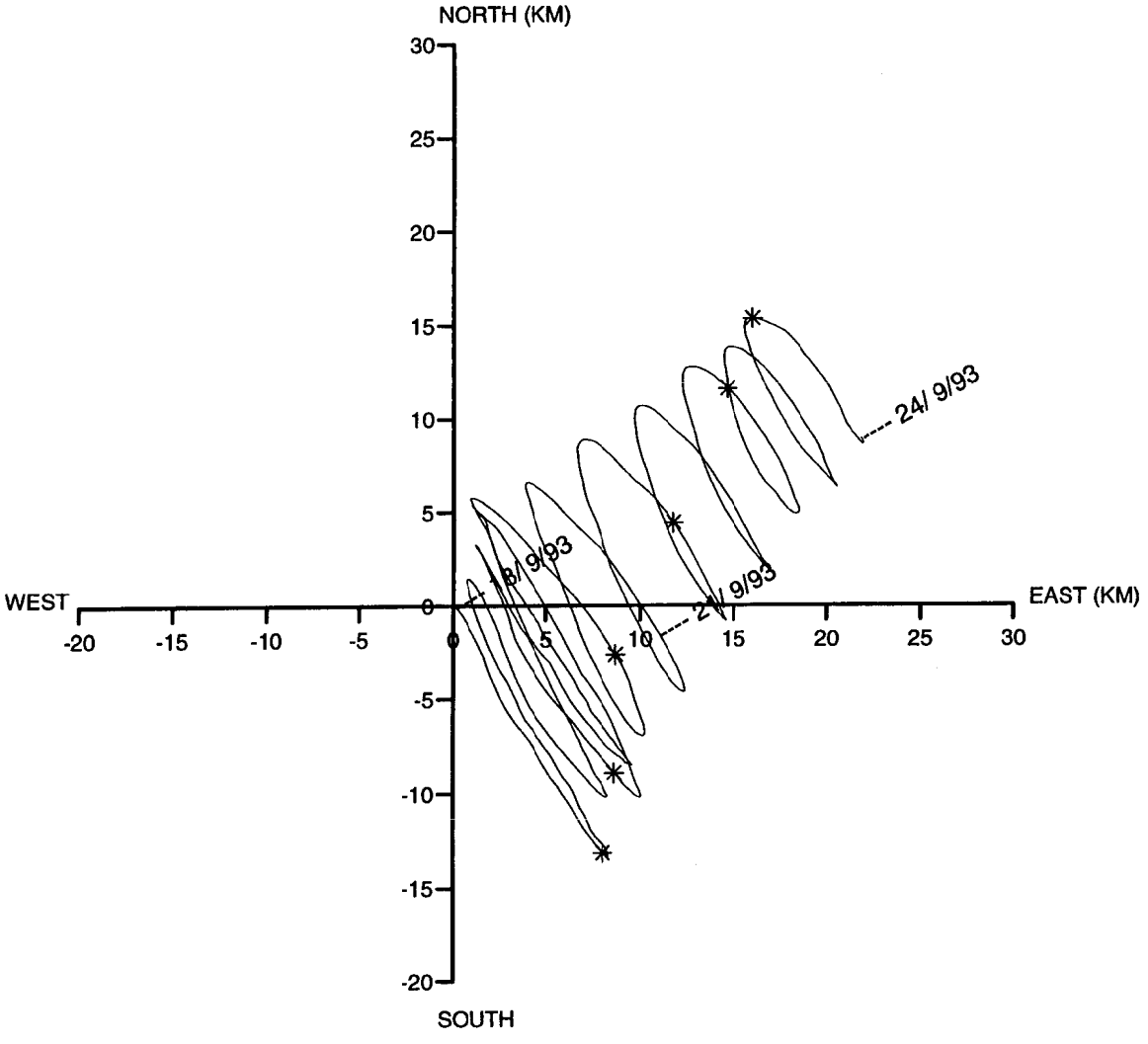


VECTOR PLOT

Meter no. 1112 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 15.0

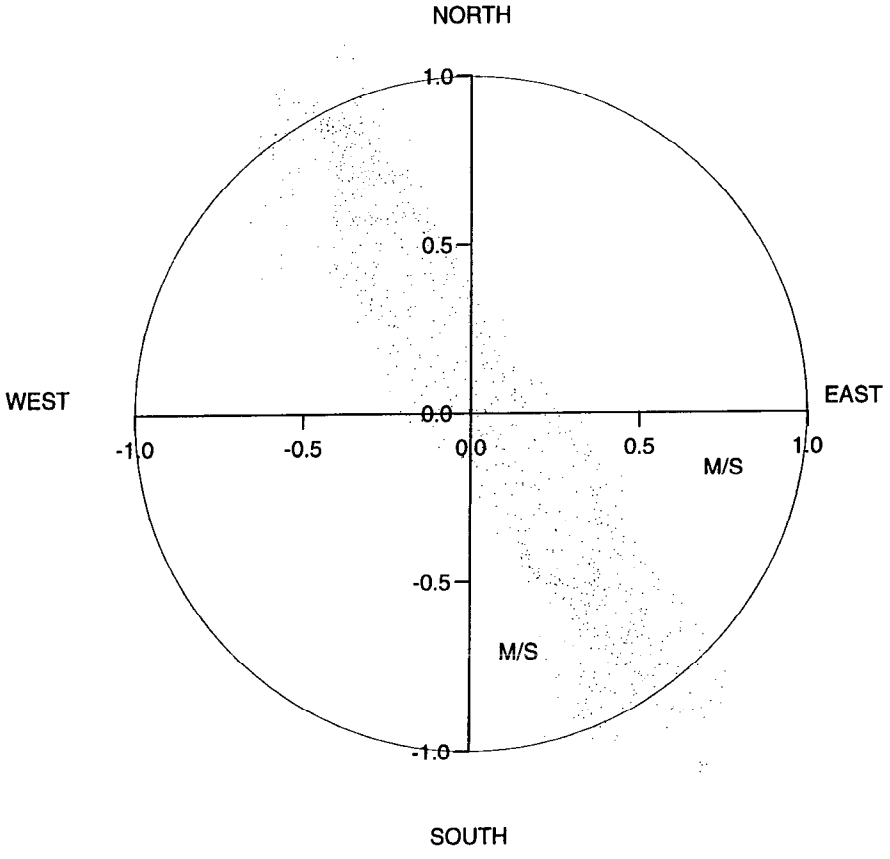


SCATTER PLOT

Meter no. 1112 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 15.0

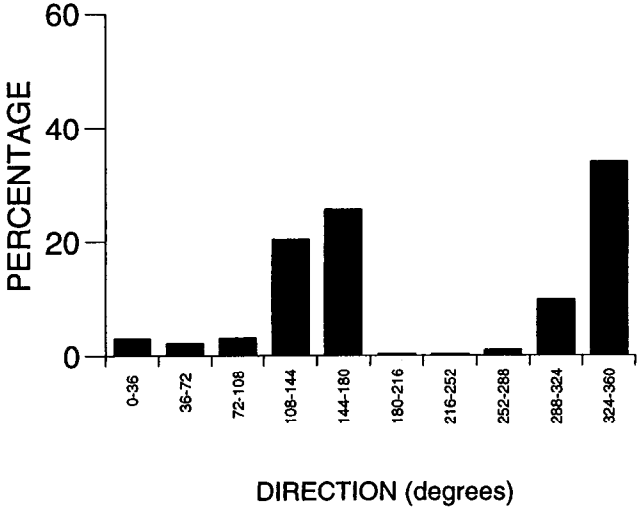


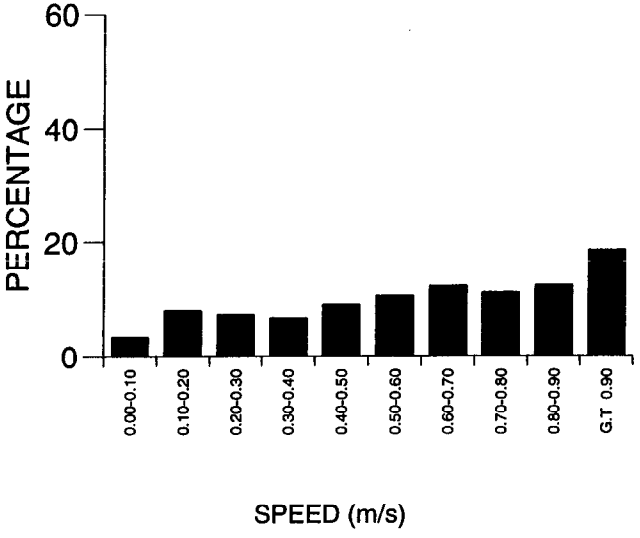
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 1112 Rig no. 00578 Depth of water(m) 138.0

Start/End 1993/09/18 AT 18:40:00 1993/09/24 AT 07:08:00

Position 54 45.48N 05 22.00W Meter Depth(m) 15.0





Statistics for s41112b.00578s

	Mean	Variance	Standard deviation
Eastings	0.0458	0.12280513E+00	0.35043564E+00
Northings	0.0188	0.33130515E+00	0.57559115E+00
Speed	0.6110	0.82825281E-01	0.28779382E+00

Vector mean speed 0.0495

Vector Mean Direction 67.7

Maximum ten values

Eastings					Northings				
0.758	0.750	0.746	0.729	0.717	1.095	1.058	1.054	0.967	0.964
0.705	0.699	0.693	0.692	0.689	0.948	0.938	0.938	0.935	0.933

Minimum ten values

Eastings					Northings				
-0.591	-0.592	-0.592	-0.602	-0.615	-0.929	-0.934	-0.956	-0.956	-0.964
-0.624	-0.626	-0.629	-0.634	-0.659	-0.969	-1.040	-1.046	-1.047	-1.066

Maximum speeds

1.268	1.261	1.256	1.246	1.159	1.142	1.139	1.132	1.114	1.114
1.113	1.113	1.112	1.107	1.103	1.102	1.098	1.087	1.087	1.082
1.080	1.079	1.067	1.064	1.063	1.062	1.061	1.060	1.059	1.053
1.039	1.034	1.032	1.031	1.029	1.029	1.021	1.020	1.019	1.017
1.015	1.013	1.011	1.007	1.004	1.004	1.004	1.002	1.000	0.999
0.998	0.998	0.997	0.997	0.995	0.995	0.995	0.989	0.989	0.986
0.985	0.983	0.982	0.982	0.982	0.982	0.981	0.979	0.978	0.977
0.977	0.975	0.972	0.971	0.971	0.969	0.968	0.968	0.967	0.964
0.963	0.962	0.961	0.960	0.959	0.958	0.958	0.958	0.957	0.955
0.954	0.954	0.954	0.953	0.951	0.950	0.950	0.950	0.948	0.947

Variance ellipse statistics

Maximum variance	0.4424E+00	Direction	-30.5
Minimum variance	0.1172E-01	Direction	59.5
Total variance	0.4541E+00	Ratio of variances	0.2649E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 6.2

Average direction. maxdir +PI/2 to maxdir -PI/2 170.7

Rig information details for 00590

Position Latitude	:	54 45.36N
Position Longitude	:	05 20.58W
Water depth	:	138.0 m
Deployed on cruise	:	C107
Recovered on cruise	:	C107
Site name identification	:	EB2
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	28-OCT-93 16:50:00
Rig recovered on	:	02-NOV-93 09:02:00
Period of deployment	:	4.7 days
Comments	:	Launch and recovery successful

Meter information details for 1112

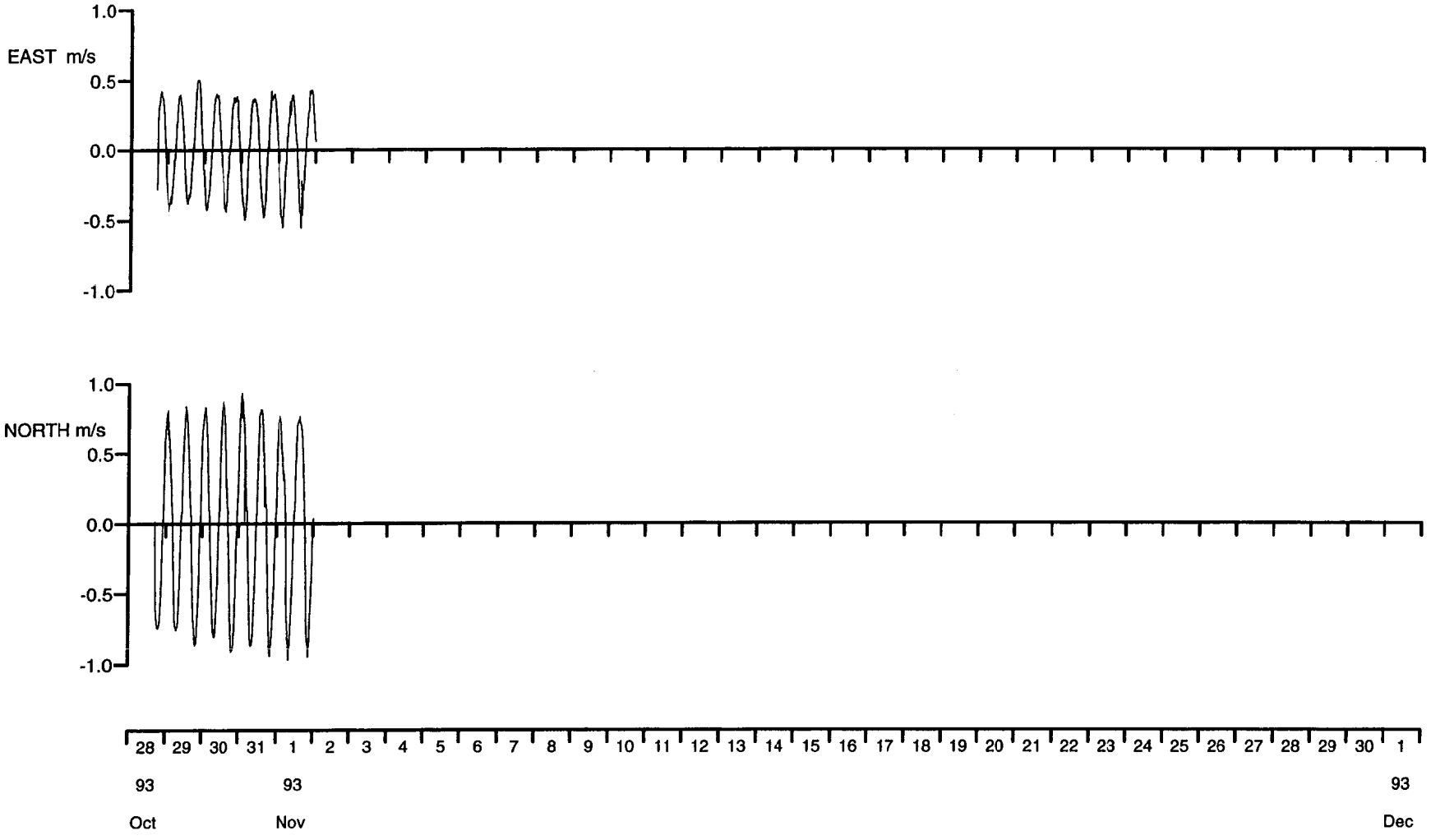
Rig No	:	00590
Meter No	:	1112
Recording interval	:	600.0 seconds
Meter depth	:	5.0 m
Position of meter on rig	:	T
Meter type	:	S4
Meter started	:	28-OCT-93 10:40:00
Time of last valid scan	:	02-NOV-93 00:10:00
Period of good data	:	4.3 days short record
Total number of scans	:	620
Timing error	:	None
Comments	:	0.4 days chopped off at end of record due to corruption of data In addition, spikes edited out of raw data file East - 2 spikes North - 3 spikes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1112 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 5.0

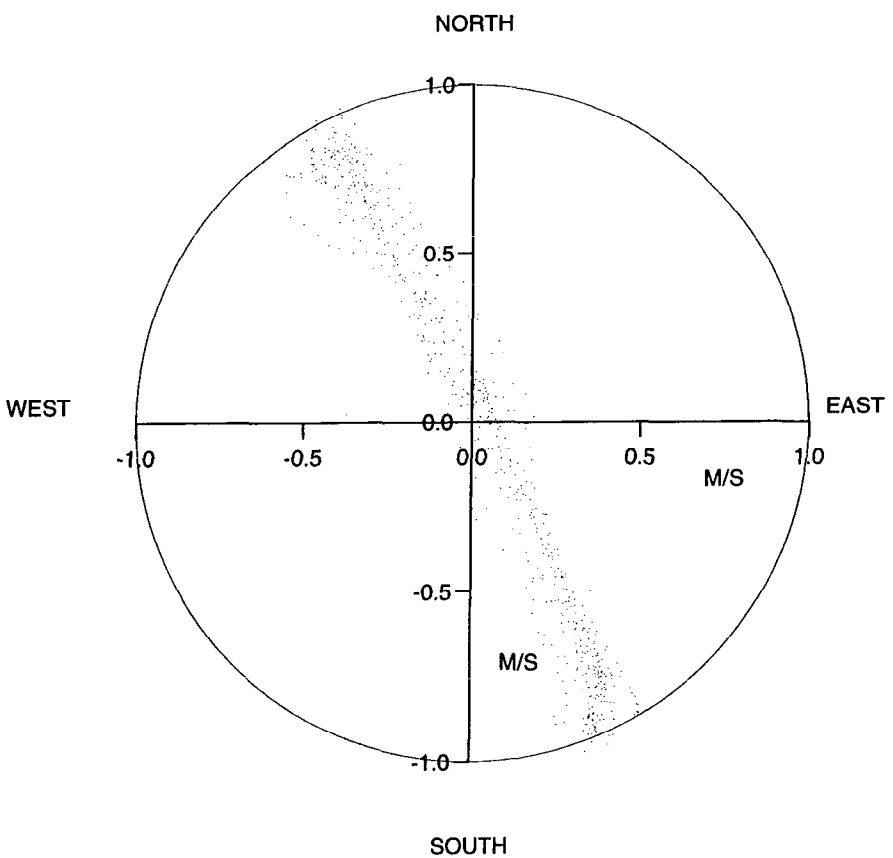


SCATTER PLOT

Meter no. 1112 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 5.0

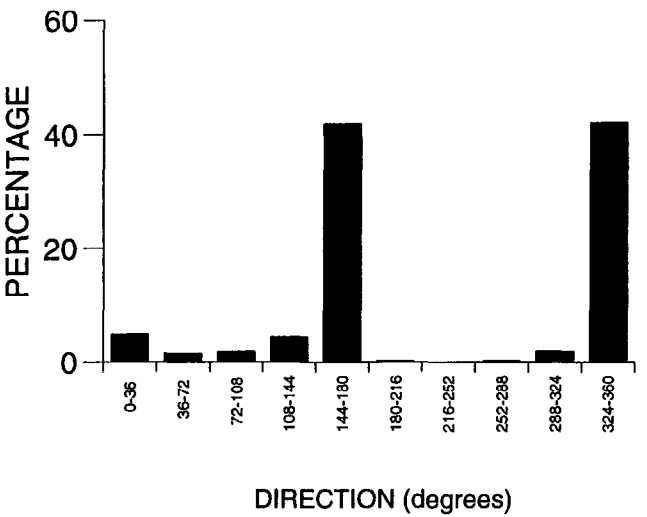


HISTOGRAMS FOR SPEEDS AND DIRECTIONS

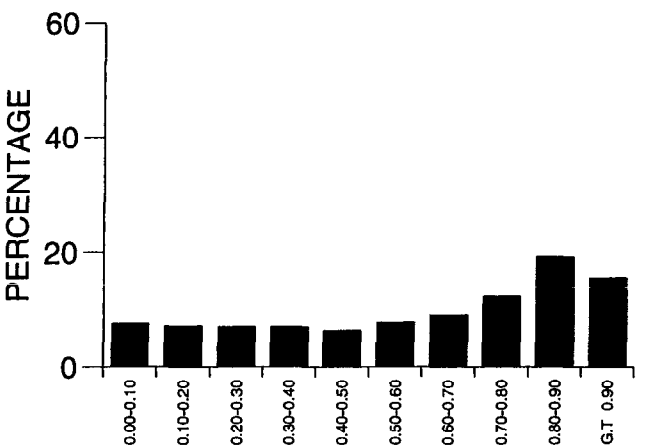
Meter no. 1112 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 5.0



DIRECTION (degrees)



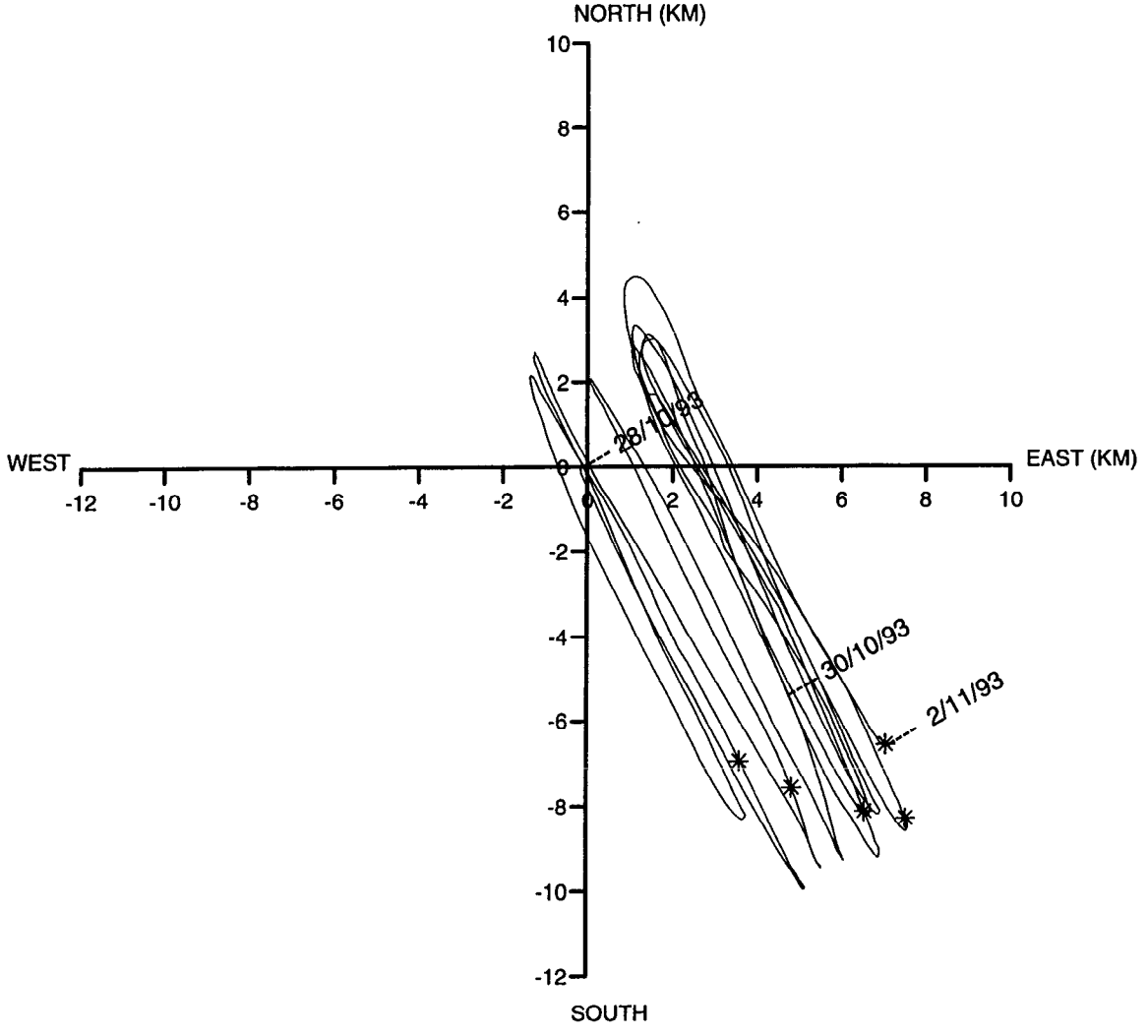
SPEED (m/s)

VECTOR PLOT

Meter no. 1112 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 5.0



Statistics for s41112t.00590s

	Mean	Variance	Standard deviation
Eastings	0.0191	0.90122923E-01	0.30020481E+00
Northings	-0.0175	0.35317886E+00	0.59428853E+00
Speed	0.5966	0.87454975E-01	0.29572785E+00

Vector mean speed 0.0259

Vector Mean Direction 132.6

Maximum ten values

Eastings					Northings				
0.502	0.501	0.501	0.500	0.499	0.929	0.910	0.902	0.894	0.885
0.496	0.495	0.493	0.490	0.484	0.874	0.870	0.861	0.860	0.853

Minimum ten values

Eastings					Northings				
-0.483	-0.497	-0.504	-0.511	-0.515	-0.910	-0.914	-0.920	-0.921	-0.922
-0.536	-0.543	-0.546	-0.554	-0.557	-0.923	-0.926	-0.943	-0.950	-0.970

Maximum speeds

1.036	1.030	1.016	1.013	1.012	1.011	1.009	1.000	1.000	0.995
0.992	0.991	0.991	0.990	0.989	0.989	0.989	0.987	0.987	0.985
0.984	0.979	0.975	0.975	0.973	0.973	0.971	0.971	0.970	0.970
0.970	0.967	0.964	0.963	0.962	0.959	0.956	0.956	0.953	0.953
0.953	0.952	0.951	0.949	0.948	0.948	0.946	0.945	0.944	0.943
0.943	0.943	0.940	0.938	0.937	0.936	0.935	0.934	0.934	0.934
0.933	0.932	0.931	0.929	0.929	0.928	0.927	0.926	0.926	0.925
0.925	0.923	0.922	0.920	0.918	0.918	0.917	0.916	0.915	0.915
0.913	0.913	0.910	0.908	0.908	0.906	0.905	0.905	0.904	0.904
0.903	0.903	0.903	0.902	0.902	0.901	0.900	0.899	0.898	0.897

Variance ellipse statistics

Maximum variance	0.4395E+00	Direction	-26.4
Minimum variance	0.3756E-02	Direction	63.6
Total variance	0.4433E+00	Ratio of variances	0.8544E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 6.9

Average direction. maxdir +PI/2 to maxdir -PI/2 175.4

Meter information details for 1119

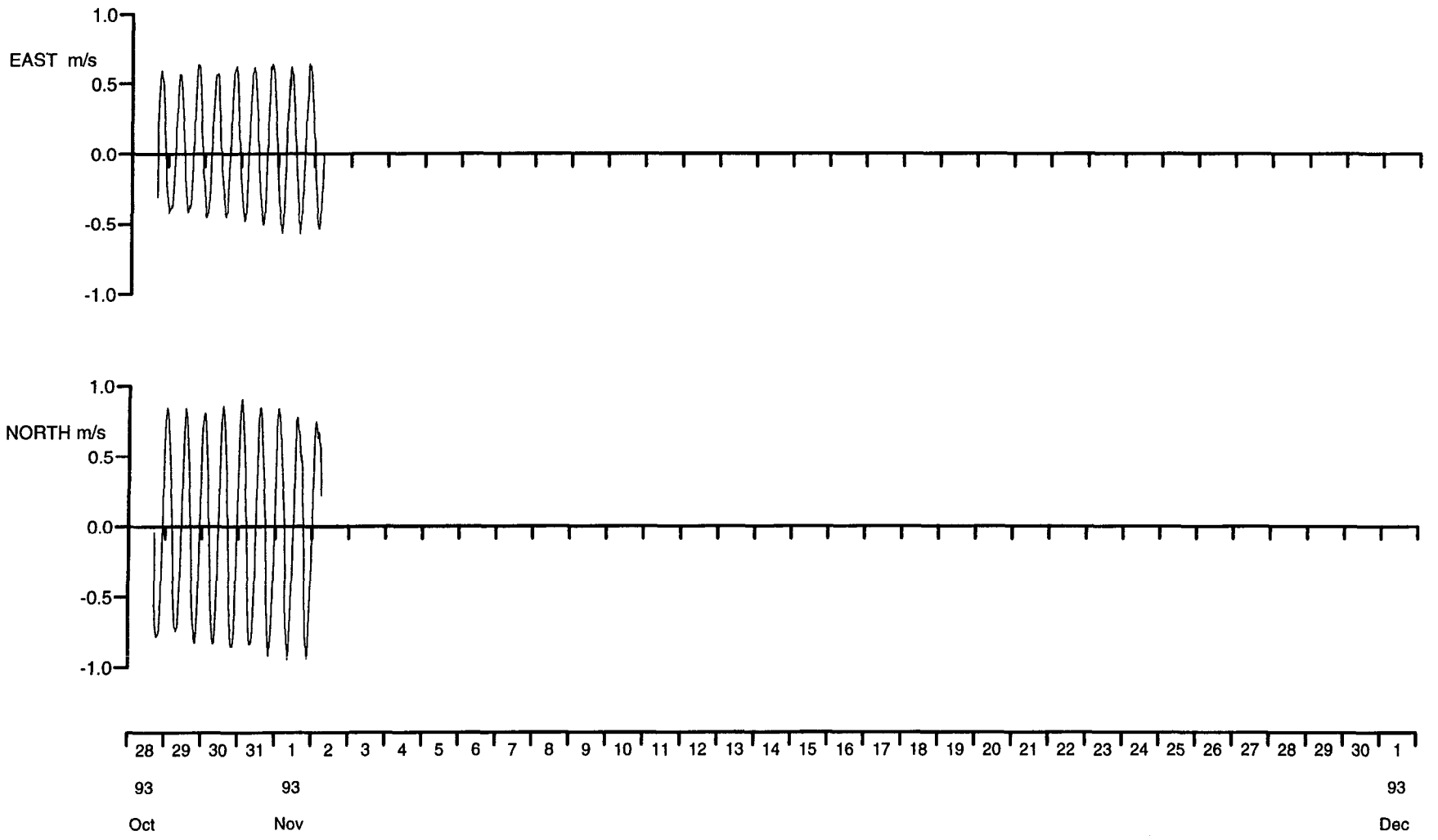
Rig No	:	00590
Meter No	:	1119
Recording interval	:	600.0 seconds
Meter depth	:	15.0 m
Position of meter on rig	:	M
Meter type	:	S4
Meter started	:	28-OCT-93 11:00:00
Time of last valid scan	:	02-NOV-93 06:10:00
Period of good data	:	4.6 days short record
Total number of scans	:	656
Timing error	:	None
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1119 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 15.0

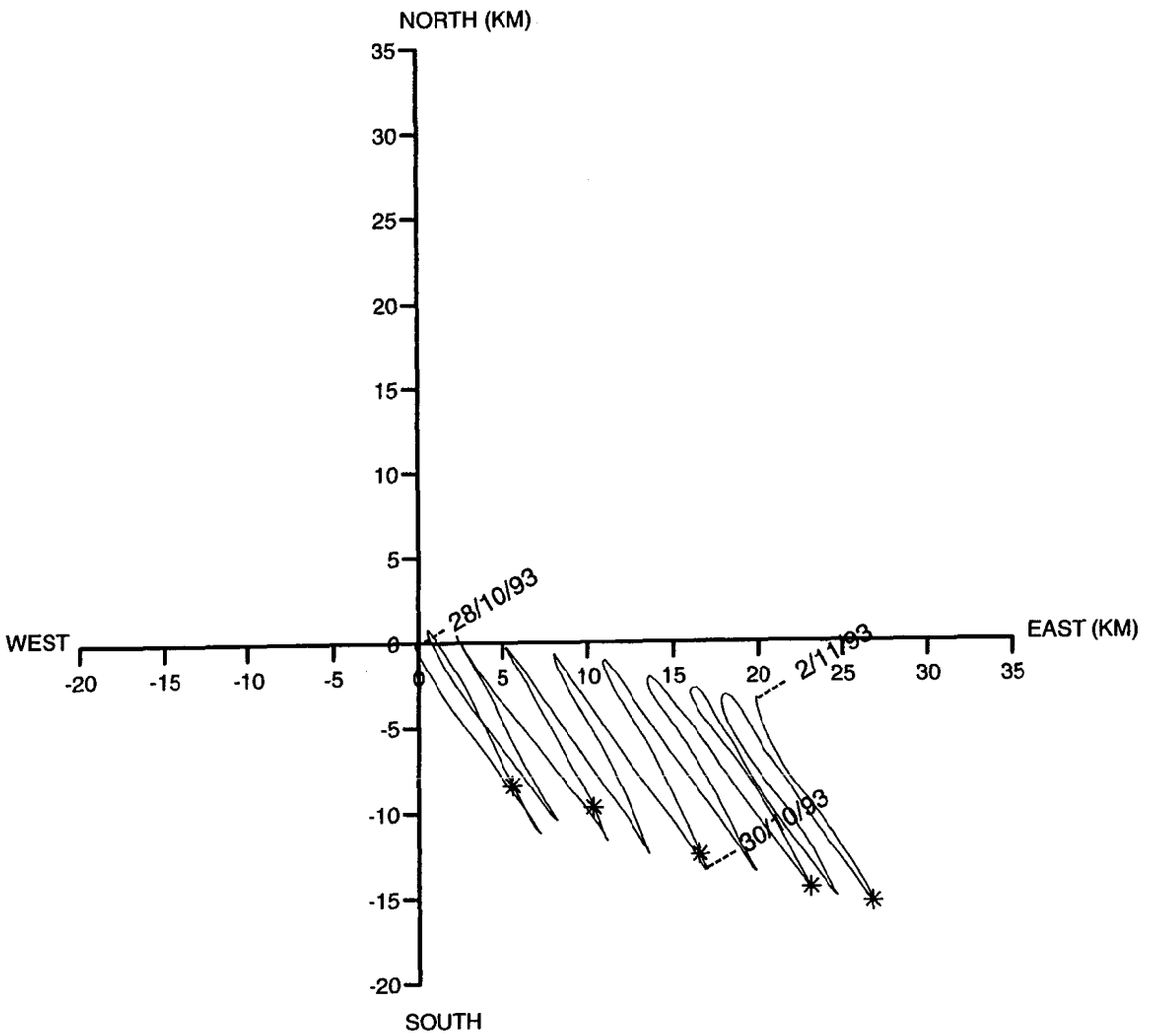


VECTOR PLOT

Meter no. 1119 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 15.0

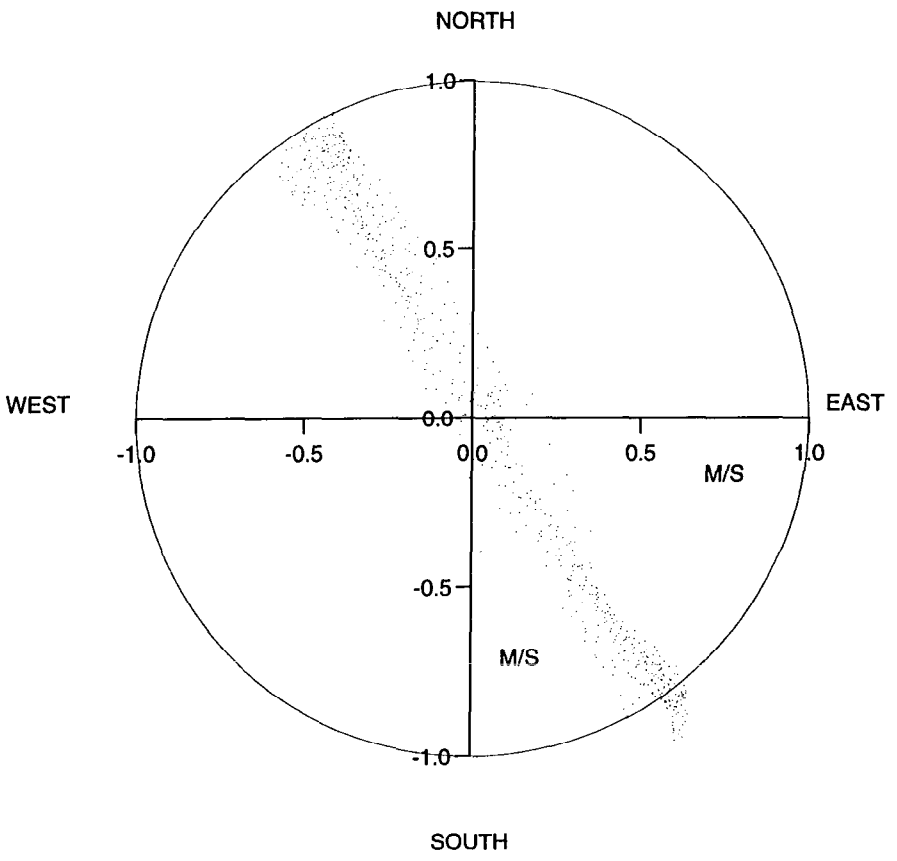


SCATTER PLOT

Meter no. 1119 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 15.0

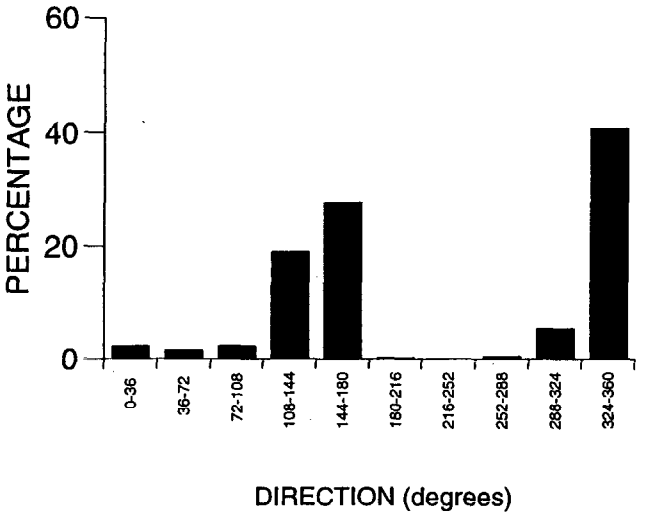


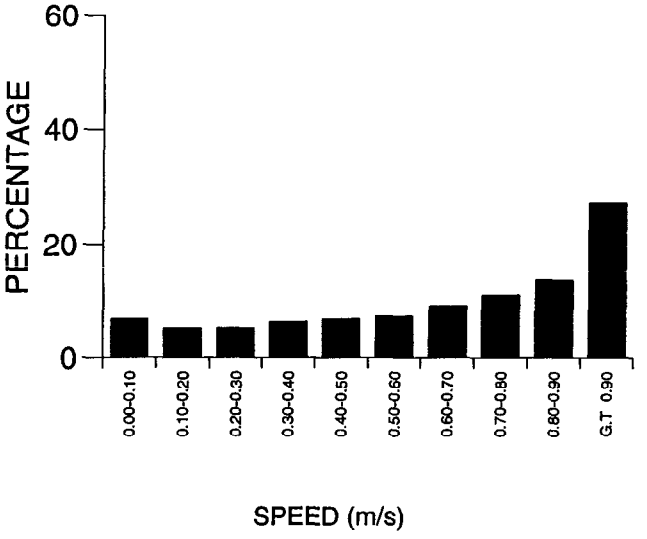
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 1119 Rig no. 00590 Depth of water(m) 138.0

Start/End 1993/10/28 AT 16:50:00 1993/11/02 AT 09:02:00

Position 54 45.36N 05 20.58W Meter Depth(m) 15.0





Statistics for s41119m.00590s

	Mean	Variance	Standard deviation
Eastings	0.0504	0.14806153E+00	0.38478765E+00
Northings	-0.0085	0.36488590E+00	0.60405785E+00
Speed	0.6495	0.93117923E-01	0.30515230E+00

Vector mean speed 0.0511

Vector Mean Direction 99.6

Maximum ten values

Eastings					Northings				
0.647	0.641	0.641	0.640	0.639	0.908	0.900	0.895	0.876	0.866
0.639	0.636	0.636	0.635	0.633	0.862	0.861	0.849	0.847	0.846

Minimum ten values

Eastings					Northings				
-0.541	-0.541	-0.542	-0.545	-0.554	-0.899	-0.906	-0.908	-0.917	-0.921
-0.555	-0.562	-0.571	-0.574	-0.579	-0.923	-0.929	-0.933	-0.942	-0.951

Maximum speeds

1.134	1.129	1.122	1.113	1.109	1.106	1.105	1.102	1.099	1.089
1.087	1.086	1.084	1.074	1.069	1.068	1.068	1.055	1.052	1.052
1.052	1.049	1.045	1.044	1.041	1.041	1.040	1.039	1.038	1.036
1.036	1.035	1.035	1.033	1.032	1.031	1.028	1.027	1.027	1.027
1.025	1.024	1.021	1.021	1.021	1.018	1.018	1.015	1.013	1.013
1.010	1.005	1.004	1.004	1.001	1.001	1.000	0.997	0.997	0.997
0.995	0.994	0.993	0.992	0.990	0.990	0.990	0.987	0.983	0.983
0.981	0.979	0.979	0.978	0.978	0.978	0.976	0.976	0.976	0.975
0.974	0.974	0.973	0.973	0.972	0.972	0.972	0.971	0.971	0.970
0.969	0.968	0.967	0.964	0.964	0.964	0.961	0.961	0.960	0.959

Variance ellipse statistics

Maximum variance	0.5100E+00	Direction	-32.3
Minimum variance	0.2911E-02	Direction	57.7
Total variance	0.5129E+00	Ratio of variances	0.5707E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 7.4

Average direction. maxdir +PI/2 to maxdir -PI/2 174.1

Meter information details for 6997

Rig No	:	00590
Meter No	:	6997
Recording interval	:	1.0 seconds
Meter depth	:	16.0 m
Position of meter on rig	:	B
Meter type	:	SA
Meter started	:	29-OCT-93 23:15:00
Meter stopped	:	01-NOV-93 19:15:00
Period switched on	:	2.8 days
Comments	:	The EG & G SACM was setup to record east and north components of current, X-tilt, Y-tilt and compass every second for 30 minutes every 4 hours

Individual burst statistics for meter no. SA6997 on rig no. 00590

Burst No.	East Component ($m\ s^{-1}$)		North Component ($m\ s^{-1}$)		X Tilt (degrees)		Y Tilt (degrees)		Compass (degrees)		Temperature (°C)
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
1	-0.145	0.132	0.247	0.165	1.3	1.9	1.2	1.5	83.0	15.6	12.79
2	-0.276	0.124	0.546	0.085	2.7	1.4	2.6	1.3	96.2	6.8	12.72
3	0.419	0.166	-0.971	0.111	6.6	1.2	6.2	1.6	289.3	10.5	12.72
4	-0.021	0.141	0.054	0.156	1.0	2.1	0.4	2.1	152.6	27.3	12.77
5	-0.290	0.136	0.622	0.110	3.8	1.4	3.0	1.4	108.3	7.4	12.71
6	0.426	0.145	-1.034	0.109	7.2	1.1	6.4	1.4	293.3	9.2	12.71
7	0.029	0.156	-0.019	0.143	0.8	2.3	0.4	2.1	253.8	61.8	12.76
8	-0.375	0.136	0.689	0.111	4.3	1.4	3.8	1.3	103.4	7.6	12.66
9	0.396	0.128	-0.982	0.096	6.2	1.2	6.0	1.2	290.0	8.2	12.69
10	0.039	0.146	-0.081	0.126	0.9	2.2	0.5	1.7	266.2	75.5	12.52
11	-0.413	0.145	0.687	0.128	4.4	1.5	4.3	1.4	97.9	7.1	12.61
12	0.471	0.142	-0.899	0.134	5.9	1.5	6.1	1.5	282.1	10.6	12.67
13	0.086	0.140	-0.160	0.157	1.0	2.2	1.0	1.8	259.1	16.1	12.55
14	-0.528	0.136	0.778	0.122	5.3	1.3	5.5	1.4	95.4	6.4	12.70
15	0.275	0.138	-0.787	0.121	4.3	1.7	5.2	1.5	284.5	11.3	12.82
16	0.163	0.139	-0.283	0.148	1.4	2.2	1.7	1.6	264.4	15.6	12.50
17	-0.493	0.137	0.763	0.120	5.0	1.2	5.5	1.4	95.4	6.1	12.67
18	0.257	0.104	-0.477	0.126	1.8	1.9	2.5	1.8	249.4	49.5	12.80

Rig information details for 00584

Position Latitude	:	54 51.51N
Position Longitude	:	05 12.80W
Water depth	:	74.0 m
Deployed on cruise	:	C106
Recovered on cruise	:	C106
Site name identification	:	GB
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	19-SEP-93 11:05:00
Rig recovered on	:	24-SEP-93 12:36:00
Period of deployment	:	5.1 days
Comments	:	Launch and recovery successful however mooring moved from original position The mooring moved 4.7 km in a direction of 340 degrees

Meter information details for 1644

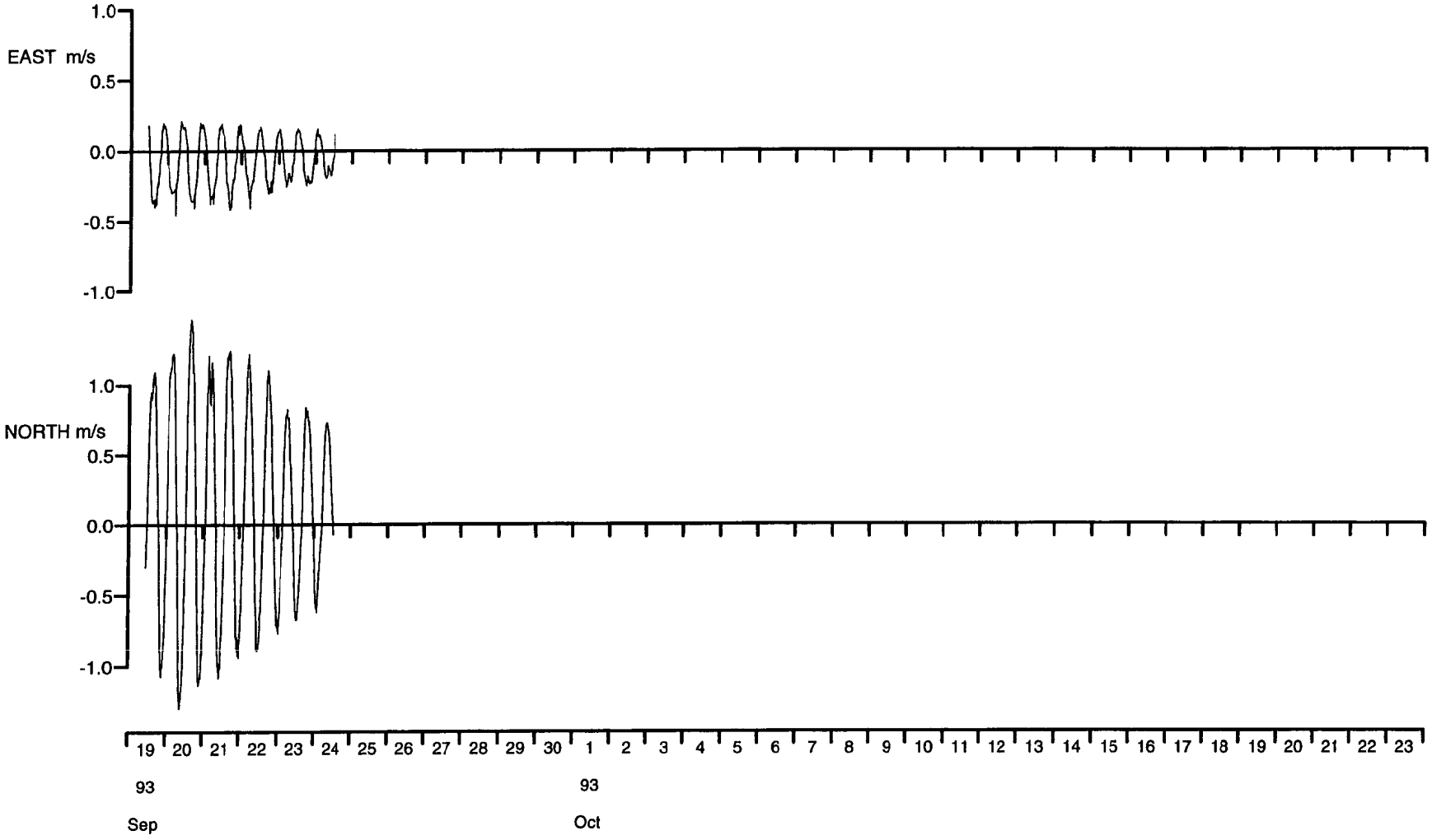
Rig No	:	00584
Meter No	:	1644
Recording interval	:	600.0 seconds
Meter depth	:	5.0 m
Position of meter on rig	:	T
Meter type	:	S4
Meter started	:	19-SEP-93 10:10:00
Meter stopped	:	24-SEP-93 14:20:00
Period switched on	:	5.2 days
Period of good data	:	5.1 days
Total number of scans	:	729
Timing error	:	None
Comments	:	Good record obtained Spikes edited out of raw data file East - 4 spikes North - 3 spikes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1644 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 5.0

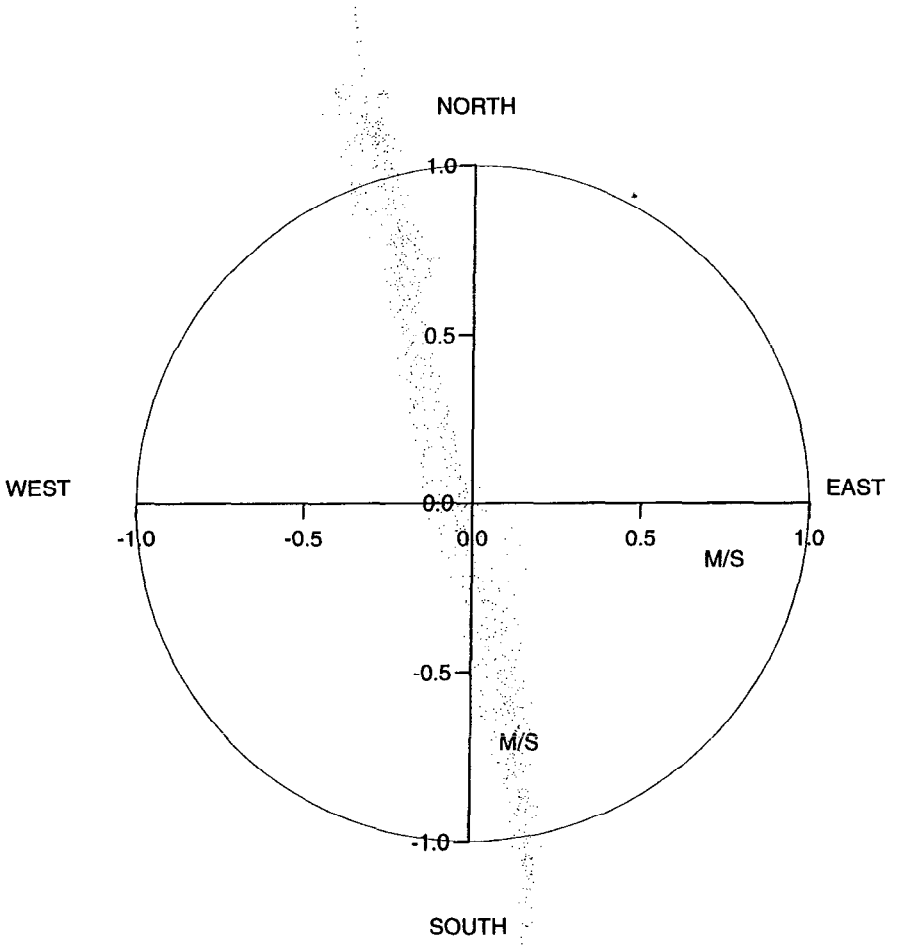


SCATTER PLOT

Meter no. 1644 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 5.0

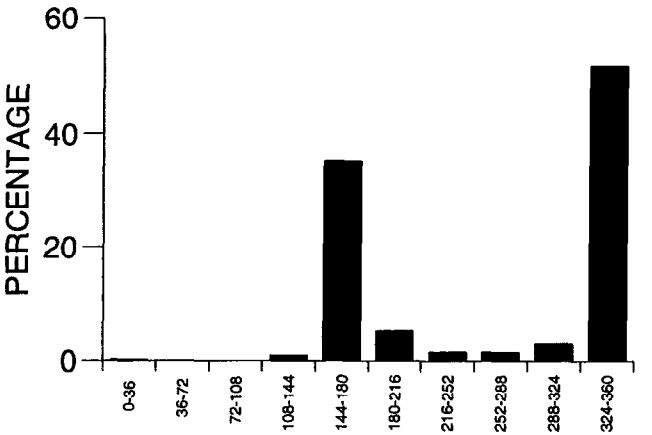


HISTOGRAMS FOR SPEEDS AND DIRECTIONS

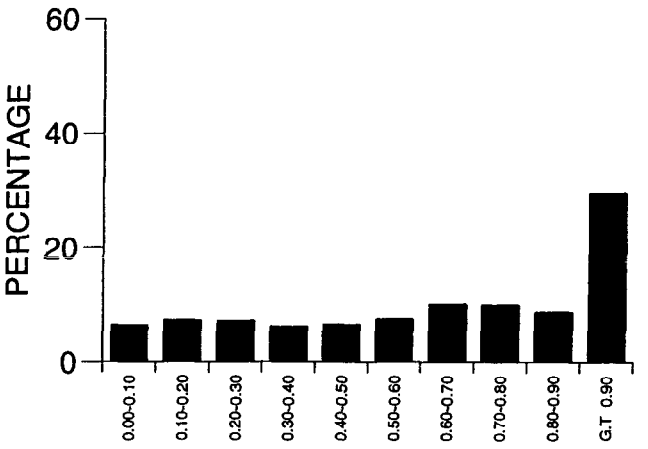
Meter no. 1644 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 5.0



DIRECTION (degrees)



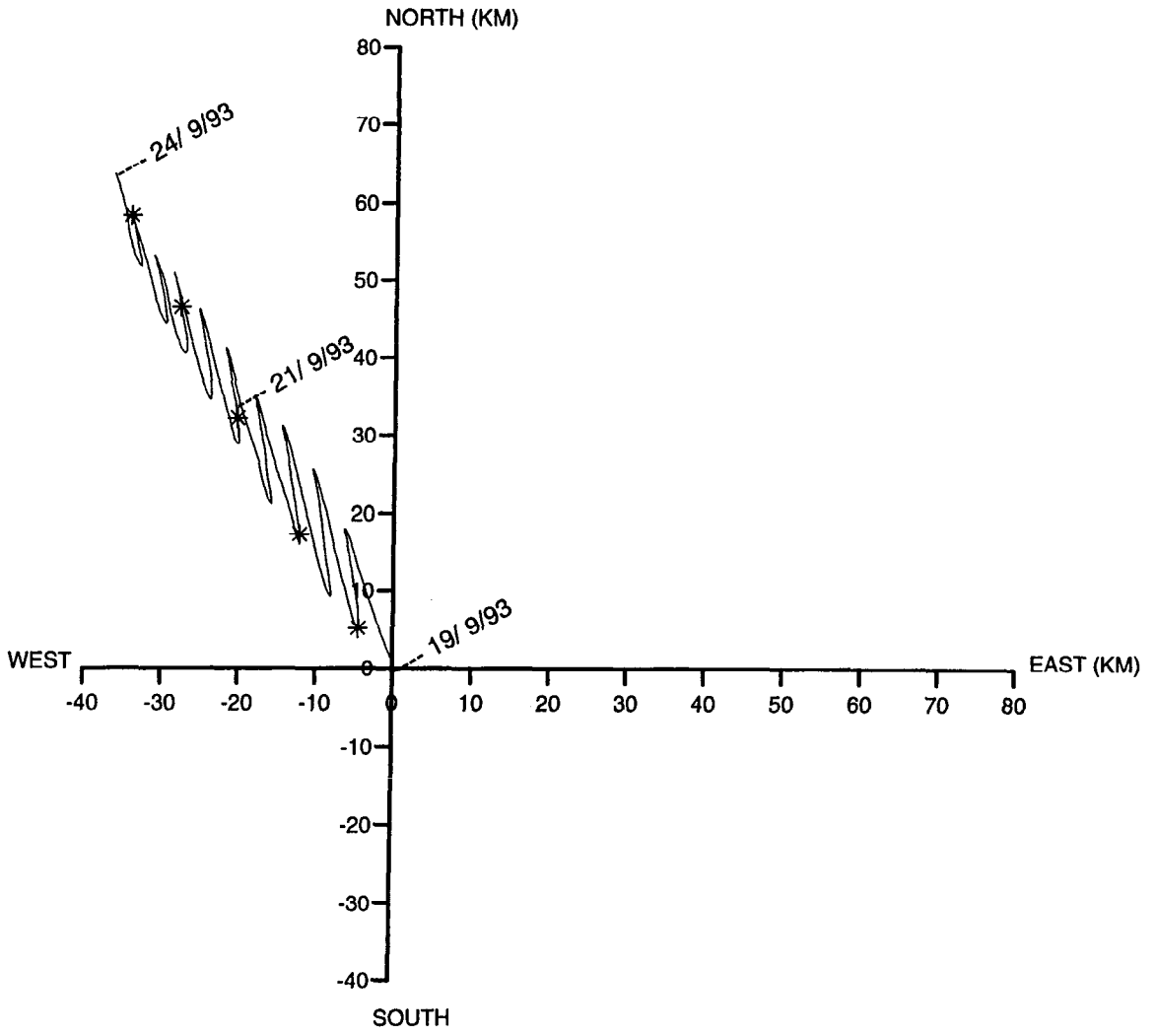
SPEED (m/s)

VECTOR PLOT

Meter no. 1644 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 5.0



Statistics for s41644t.00584s

	Mean	Variance	Standard deviation
Eastings	-0.0833	0.30600306E-01	0.17492943E+00
Northings	0.1453	0.52295315E+00	0.72315496E+00
Speed	0.6684	0.13427764E+00	0.36643913E+00

Vector mean speed 0.1674

Vector Mean Direction -29.8

Maximum ten values

Eastings					Northings				
0.215	0.202	0.199	0.191	0.190	1.466	1.466	1.446	1.446	1.426
0.189	0.189	0.189	0.188	0.188	1.426	1.407	1.406	1.368	1.366

Minimum ten values

Eastings					Northings				
-0.400	-0.402	-0.407	-0.408	-0.409	-1.174	-1.176	-1.190	-1.236	-1.242
-0.410	-0.418	-0.418	-0.418	-0.456	-1.246	-1.248	-1.250	-1.280	-1.300

Maximum speeds

1.510	1.510	1.491	1.490	1.471	1.471	1.451	1.451	1.412	1.410
1.372	1.331	1.312	1.310	1.304	1.300	1.293	1.291	1.290	1.287
1.287	1.276	1.268	1.268	1.262	1.262	1.260	1.258	1.256	1.252
1.252	1.250	1.249	1.247	1.247	1.246	1.245	1.245	1.243	1.242
1.236	1.235	1.233	1.226	1.219	1.210	1.205	1.201	1.200	1.196
1.192	1.186	1.186	1.184	1.180	1.176	1.175	1.174	1.171	1.169
1.166	1.164	1.160	1.160	1.159	1.158	1.158	1.157	1.153	1.152
1.150	1.148	1.148	1.148	1.147	1.146	1.142	1.141	1.141	1.138
1.137	1.136	1.134	1.133	1.133	1.132	1.130	1.129	1.128	1.128
1.125	1.125	1.124	1.123	1.119	1.119	1.119	1.117	1.114	1.113

Variance ellipse statistics

Maximum variance	0.5518E+00	Direction	-13.2
Minimum variance	0.1762E-02	Direction	76.8
Total variance	0.5536E+00	Ratio of variances	0.3194E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 -7.5

Average direction. maxdir +PI/2 to maxdir -PI/2 187.7

Meter information details for 1119

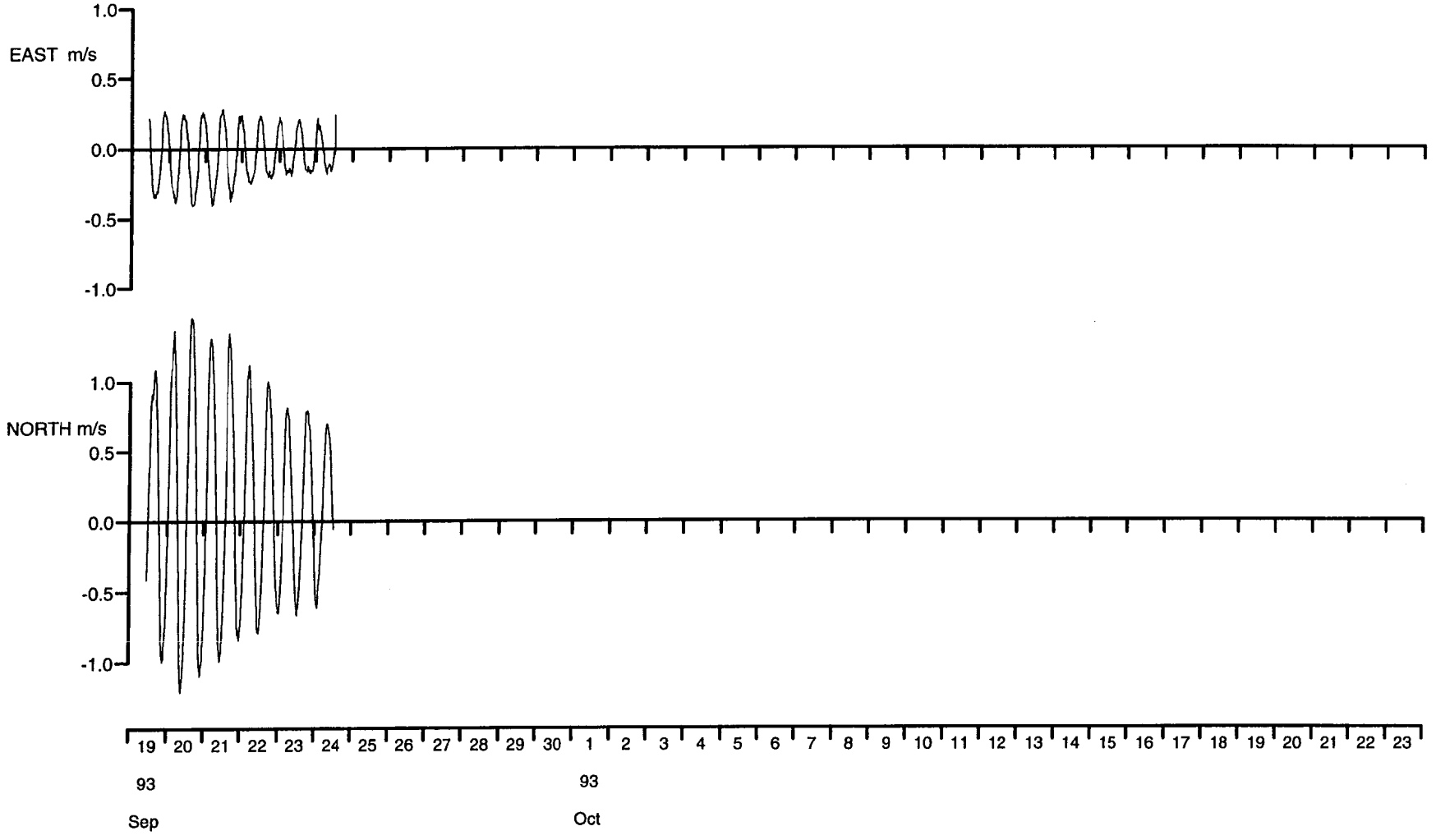
Rig No	:	00584
Meter No	:	1119
Recording interval	:	600.0 seconds
Meter depth	:	15.0 m
Position of meter on rig	:	B
Meter type	:	S4
Meter started	:	18-SEP-93 12:00:00
Meter stopped	:	24-SEP-93 13:40:00
Period switched on	:	6.1 days
Period of good data	:	5.1 days
Total number of scans	:	729
Timing error	:	None
Comments	:	Good record obtained Spikes edited out of raw data file East - 2 spikes

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 1119 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 15.0

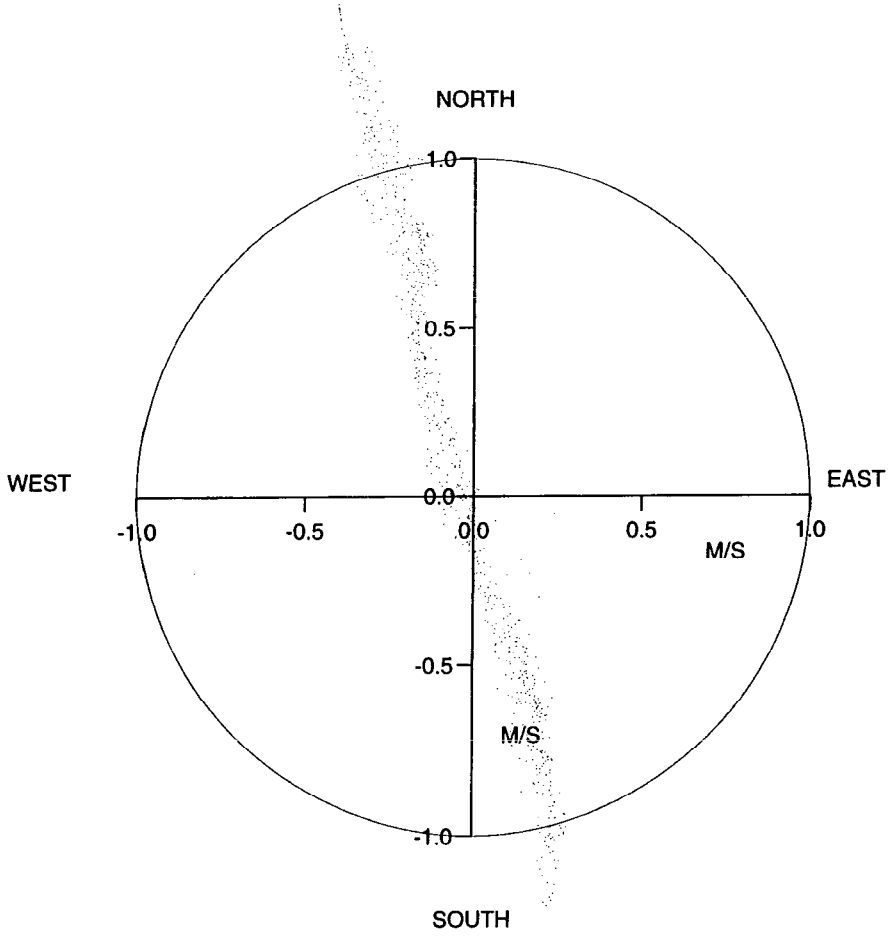


SCATTER PLOT

Meter no. 1119 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 15.0

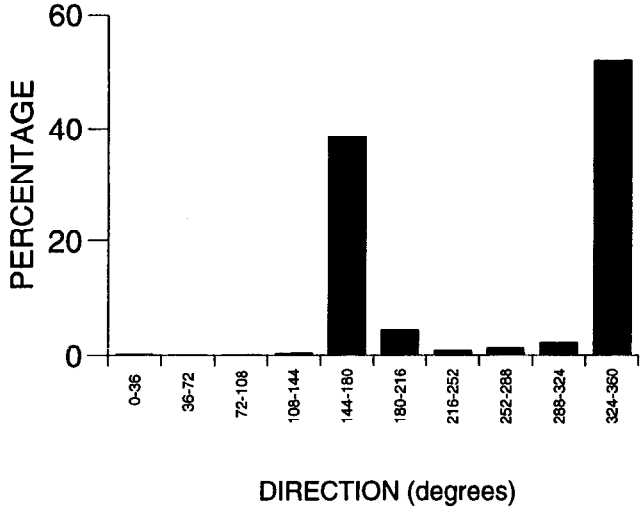


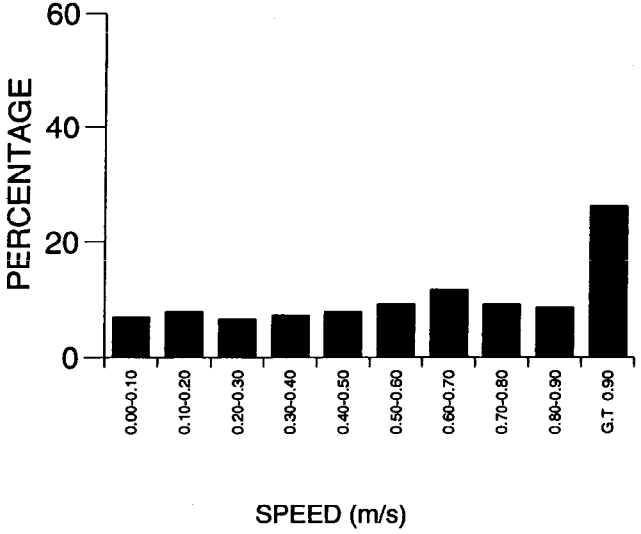
HISTOGRAMS FOR SPEEDS AND DIRECTIONS

Meter no. 1119 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 15.0



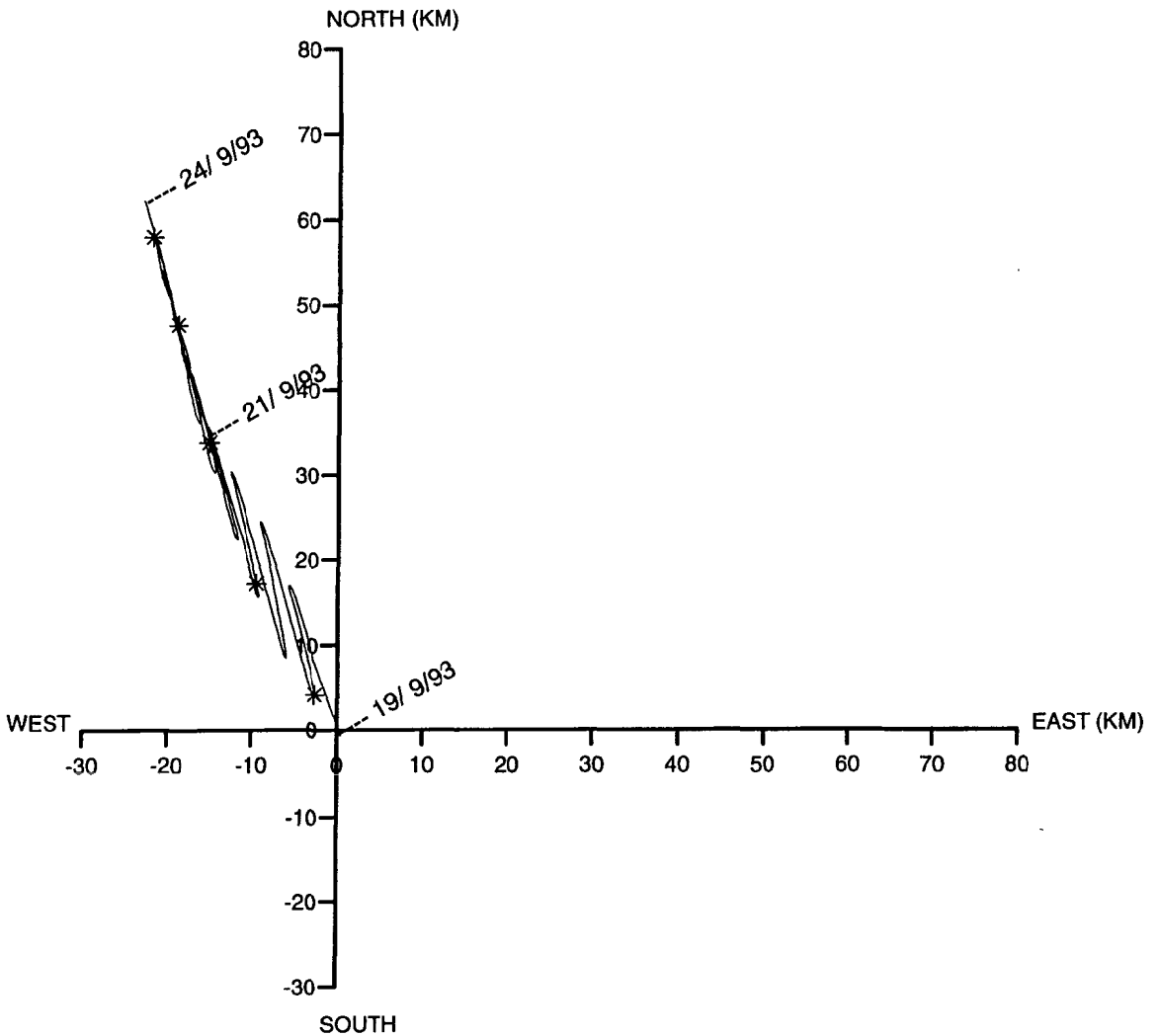


VECTOR PLOT

Meter no. 1119 Rig no. 00584 Depth of water(m) 74.0

Start/End 1993/09/19 AT 11:05:00 1993/09/24 AT 12:36:00

Position 54 51.51N 05 12.80W Meter Depth(m) 15.0



Statistics for s41119b.00584s

	Mean	Variance	Standard deviation
Eastings	-0.0522	0.36546178E-01	0.19117056E+00
Northings	0.1423	0.49980995E+00	0.70697242E+00
Speed	0.6514	0.13447817E+00	0.36671266E+00

Vector mean speed 0.1515

Vector Mean Direction -20.2

Maximum ten values

Eastings					Northings				
0.280	0.278	0.276	0.276	0.275	1.461	1.451	1.449	1.445	1.441
0.271	0.269	0.264	0.263	0.262	1.433	1.419	1.417	1.415	1.391

Minimum ten values

Eastings					Northings				
-0.400	-0.401	-0.401	-0.403	-0.404	-1.099	-1.118	-1.138	-1.144	-1.161
-0.404	-0.405	-0.405	-0.406	-0.407	-1.173	-1.184	-1.194	-1.199	-1.210

Maximum speeds

1.516	1.506	1.504	1.500	1.496	1.488	1.475	1.473	1.471	1.447
1.426	1.420	1.396	1.393	1.385	1.384	1.375	1.372	1.369	1.364
1.363	1.359	1.355	1.355	1.353	1.348	1.339	1.337	1.331	1.329
1.321	1.316	1.315	1.306	1.299	1.294	1.290	1.288	1.281	1.277
1.276	1.275	1.268	1.261	1.252	1.249	1.240	1.238	1.237	1.232
1.230	1.221	1.218	1.217	1.207	1.203	1.198	1.196	1.187	1.184
1.183	1.182	1.170	1.168	1.161	1.161	1.148	1.147	1.143	1.141
1.140	1.138	1.133	1.130	1.129	1.129	1.128	1.126	1.126	1.126
1.126	1.126	1.123	1.118	1.115	1.112	1.108	1.107	1.107	1.106
1.105	1.100	1.100	1.099	1.092	1.091	1.087	1.085	1.077	1.075

Variance ellipse statistics

Maximum variance	0.5348E+00	Direction	-14.8
Minimum variance	0.1584E-02	Direction	75.2
Total variance	0.5364E+00	Ratio of variances	0.2961E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 -4.4

Average direction. maxdir +PI/2 to maxdir -PI/2 184.6

Rig information details for 00576

Position Latitude	:	54 44.53N
Position Longitude	:	05 28.01W
Water depth	:	95.0 m
Deployed on cruise	:	C106
Recovered on cruise	:	C107
Site name identification	:	DA
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	20-SEP-93 06:30:00
Rig recovered on	:	01-NOV-93 09:19:00
Period of deployment	:	42.1 days
Comments	:	Launch and recovery successful

Meter information details for 0009

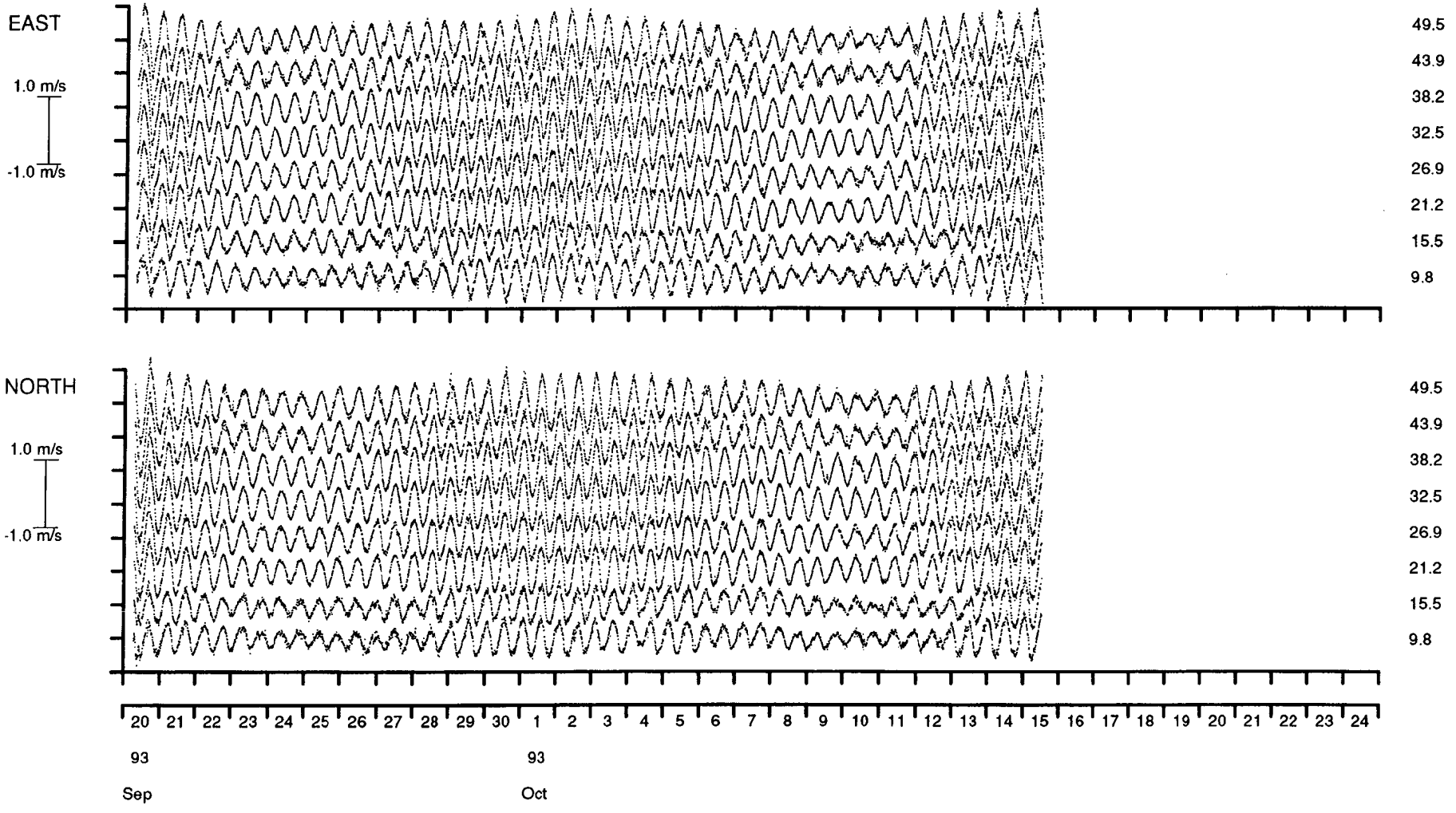
Rig No	:	00576
Meter No	:	0009
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Meter started	:	20-SEP-93 06:19:33
Time of last valid scan	:	15-OCT-93 12:49:33
Period of good data	:	25.2 days short record
Total number of scans	:	3632
Timing error	:	None
Comments	:	Good record up until timing malfunction on the 15th October

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht

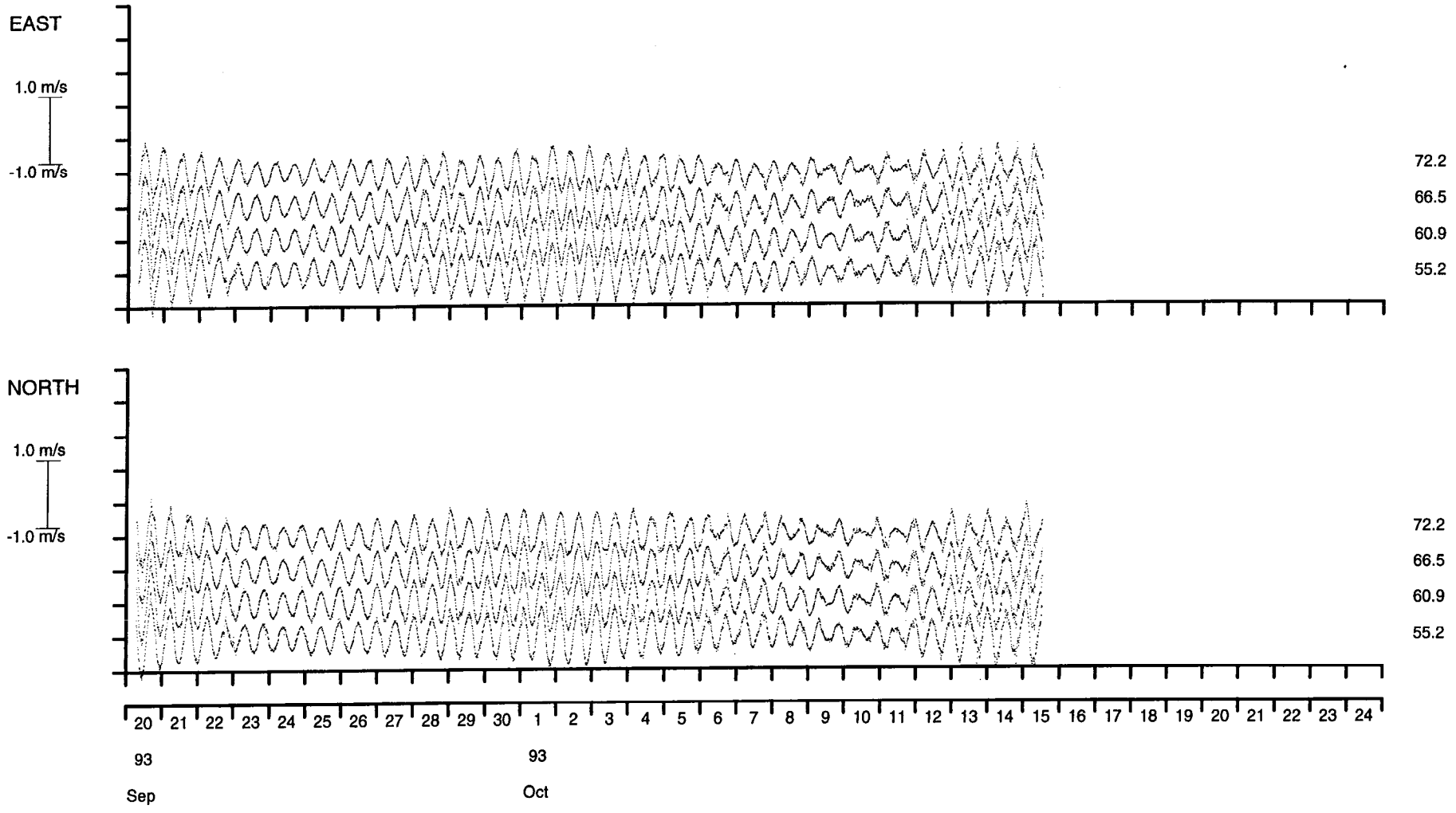


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht

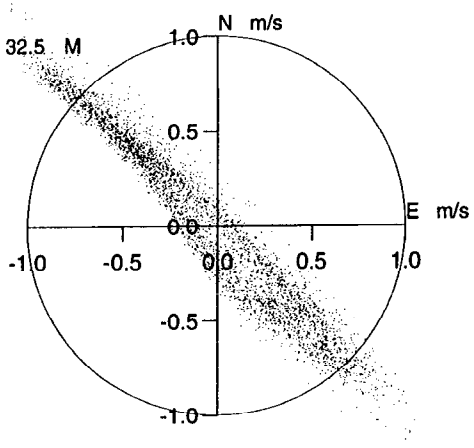


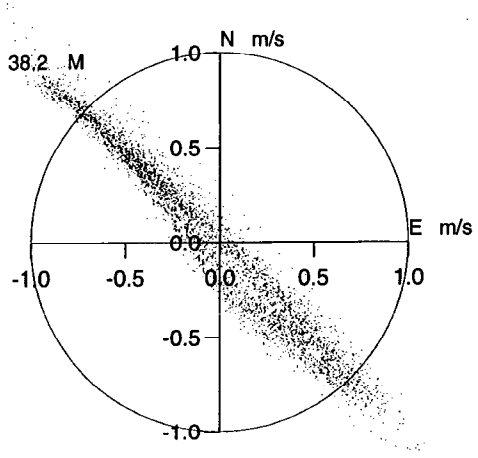
SCATTER PLOT

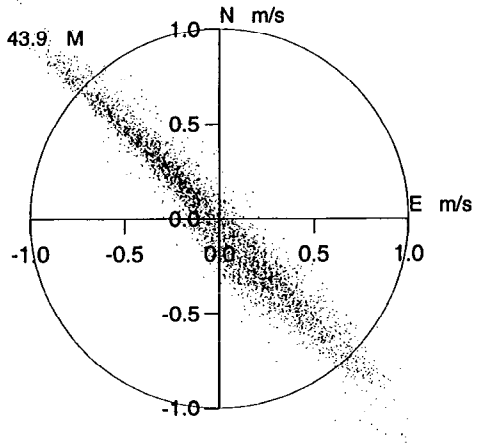
Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

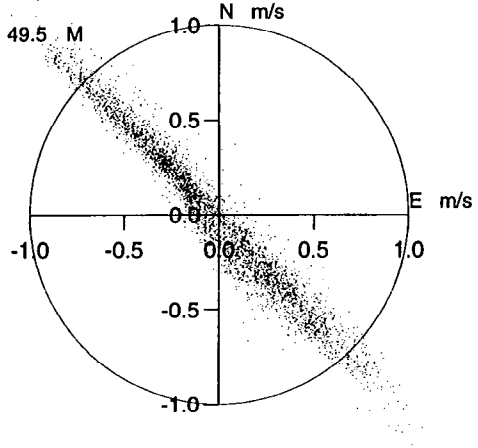
Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

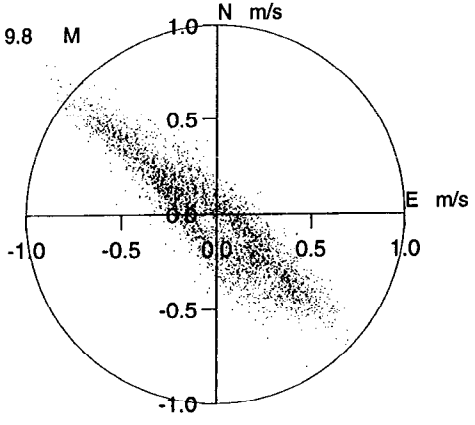
Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht

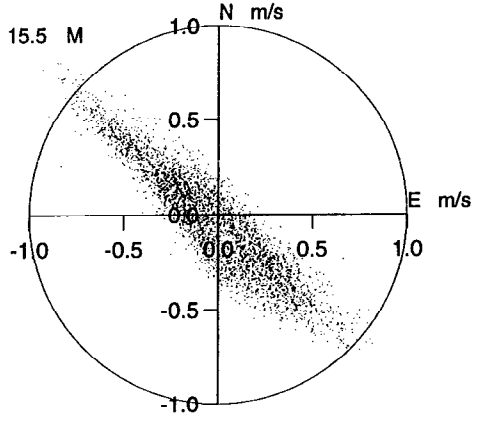


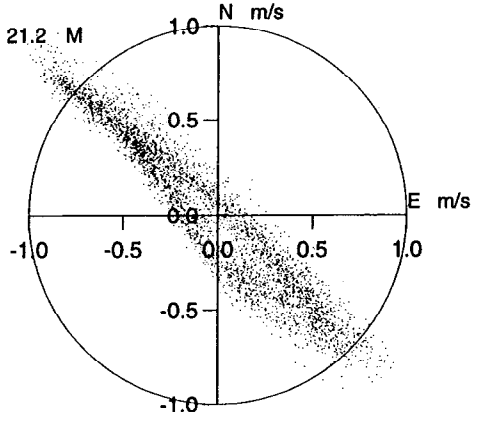


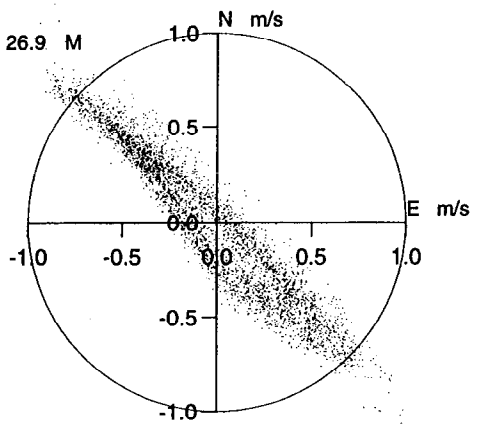










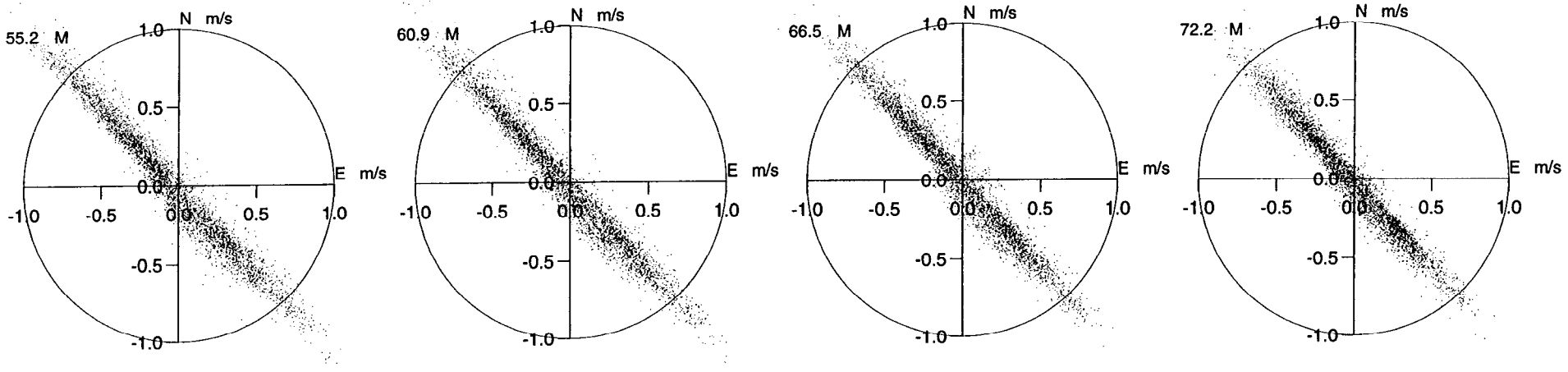


SCATTER PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht



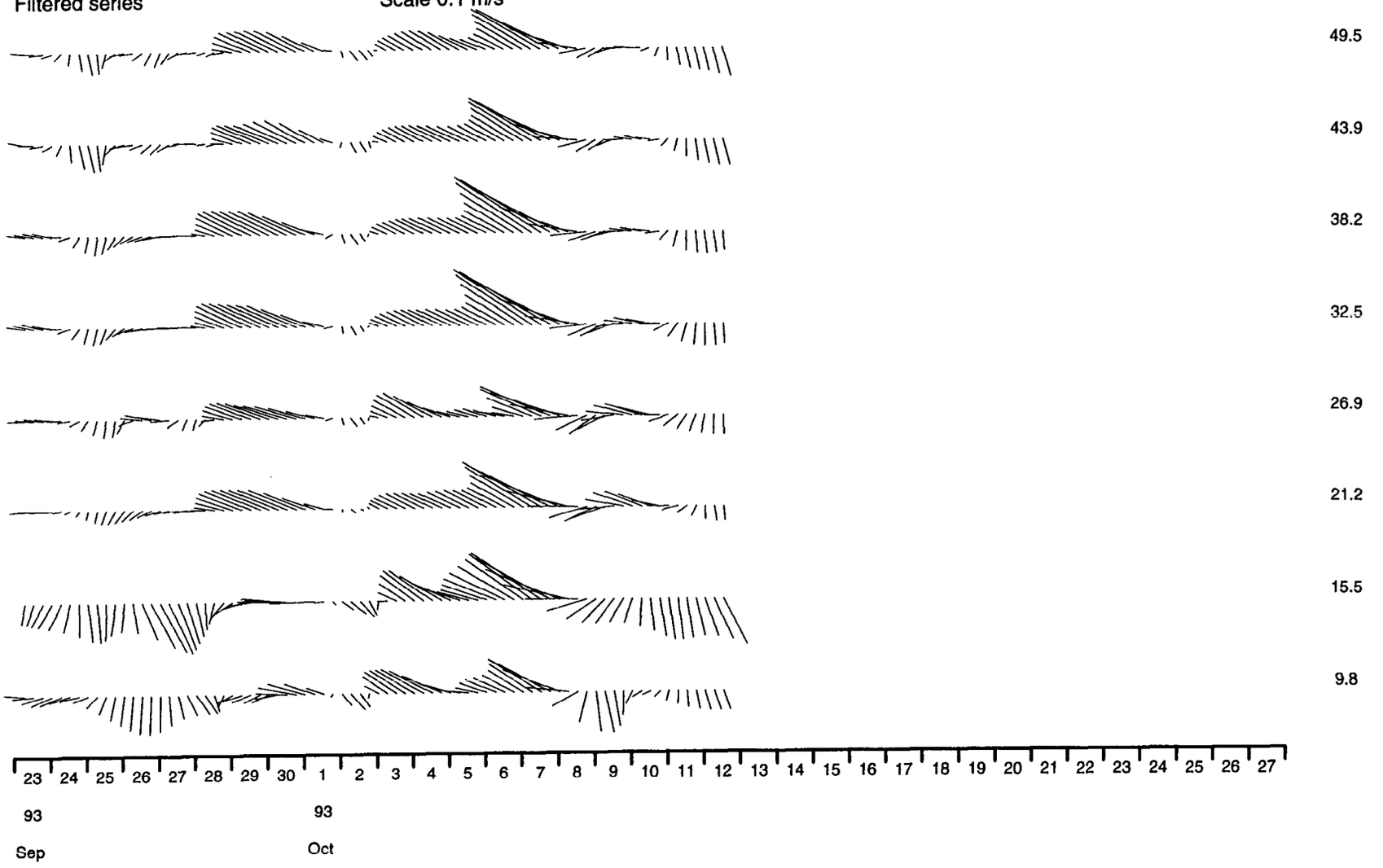
STICK TIME SERIES PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht

Filtered series Scale 0.1 m/s



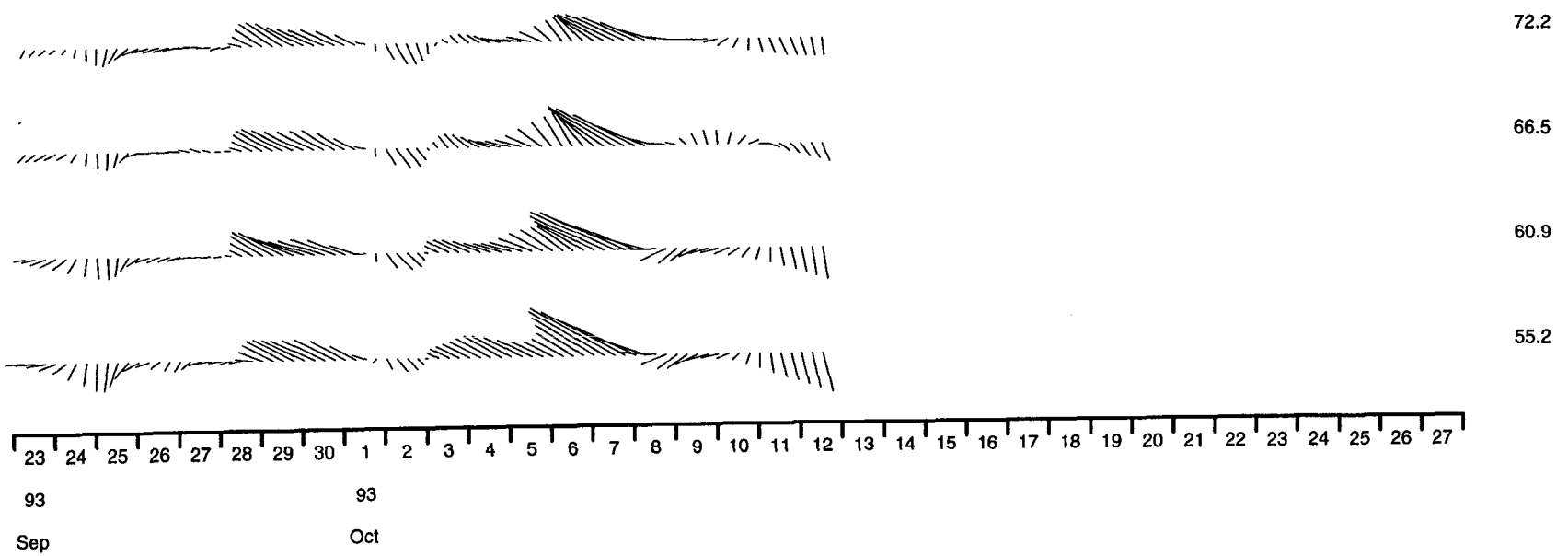
STICK TIME SERIES PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht

Filtered series Scale 0.1 m/s



Statistics for dp0009.00576

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	9.8	0.037	-115.1	0.1619	-48.1	0.0072	41.9
2	15.5	0.046	-144.3	0.1716	-47.1	0.0066	42.9
3	21.2	0.057	-78.0	0.3529	-45.7	0.0071	44.3
4	26.9	0.047	-90.9	0.3061	-44.9	0.0064	45.1
5	32.5	0.057	-79.7	0.4312	-44.4	0.0055	45.6
6	38.2	0.052	-80.1	0.4344	-44.1	0.0043	45.9
7	43.9	0.042	-86.3	0.3146	-43.2	0.0039	46.8
8	49.5	0.036	-92.9	0.3249	-43.0	0.0033	47.0
9	55.2	0.035	-98.9	0.3258	-42.9	0.0030	47.1
10	60.9	0.034	-99.8	0.3163	-42.6	0.0028	47.4
11	66.5	0.022	-80.2	0.2807	-42.2	0.0027	47.8
12	72.2	0.024	-100.2	0.2261	-42.0	0.0022	48.0

Statistics for dp0009.00576

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	9.8	0.045	-110.1	0.0046	-45.4	0.0004	44.6
2	15.5	0.053	-122.9	0.0096	-45.5	0.0005	44.5
3	21.2	0.075	-76.9	0.0043	-55.9	0.0003	34.1
4	26.9	0.065	-85.2	0.0029	-56.8	0.0003	33.2
5	32.5	0.077	-76.4	0.0054	-51.4	0.0002	38.6
6	38.2	0.072	-76.2	0.0056	-51.2	0.0002	38.8
7	43.9	0.058	-80.3	0.0046	-50.9	0.0002	39.1
8	49.5	0.053	-82.8	0.0044	-51.3	0.0001	38.7
9	55.2	0.052	-85.4	0.0045	-49.2	0.0002	40.8
10	60.9	0.052	-85.1	0.0040	-54.4	0.0002	35.6
11	66.5	0.038	-68.0	0.0030	-53.7	0.0003	36.3
12	72.2	0.037	-84.6	0.0024	-50.7	0.0001	39.3

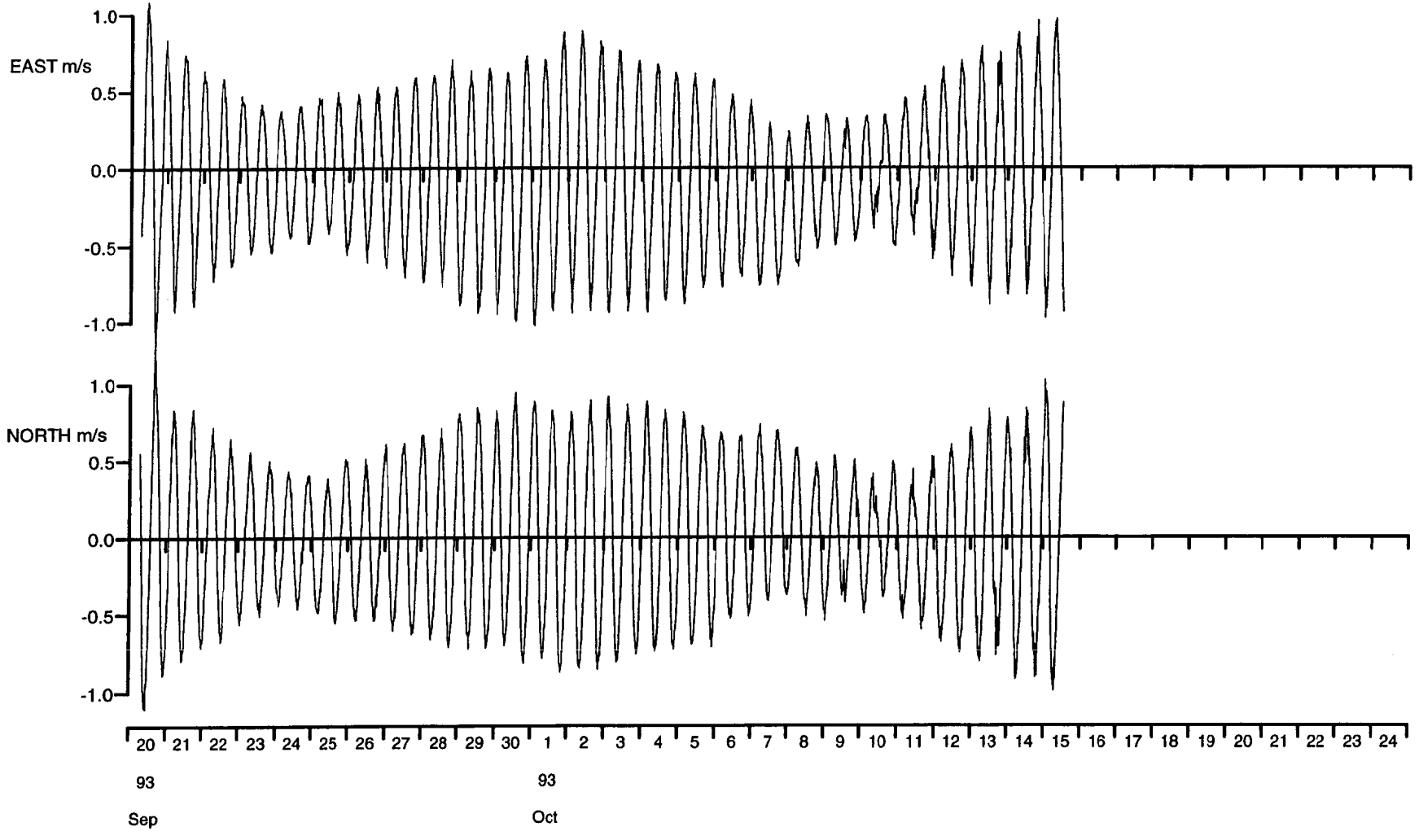
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht 38.2 Bin Ht (m)

Bin closest to depth average



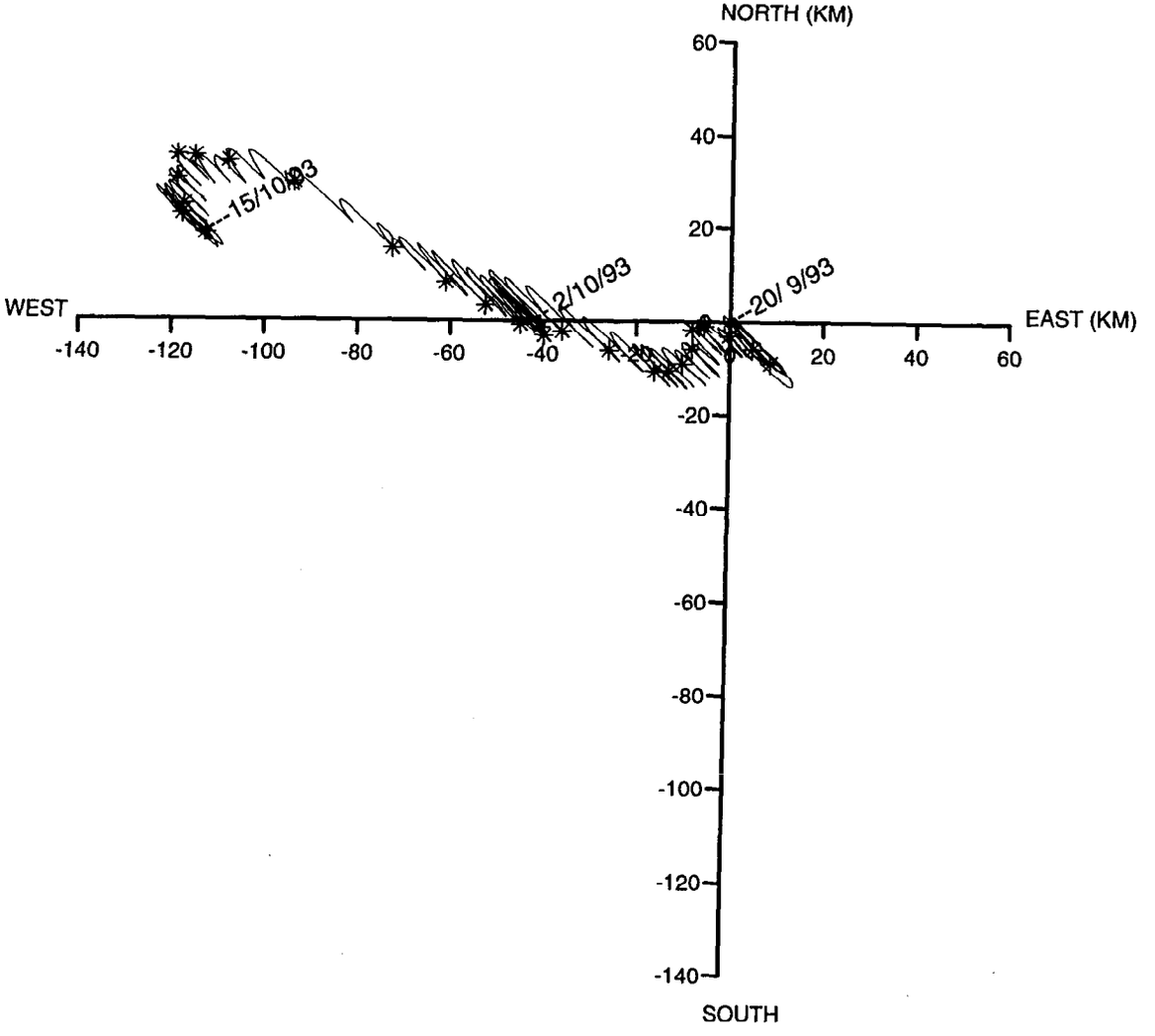
VECTOR PLOT

Meter no. 0009 Rig no. 00576 Depth of water(m) 95.0

Start/End 1993/09/20 AT 06:30:00 1993/11/01 AT 09:19:00

Position 54 44.53N 05 28.01W 9.84 Base Ht 5.67 Gap Ht 38.2 Bin Ht (m)

Bin closest to depth average



Statistics for dp0009.00576s6

Doppler bin number 6

	Mean	Variance	Standard deviation
Eastings	-0.0516	0.21238850E+00	0.46085629E+00
Northings	0.0090	0.22640100E+00	0.47581616E+00
Speed	0.5797	0.10540970E+00	0.32466862E+00

Vector mean speed 0.0524

Vector Mean Direction -80.1

Maximum ten values

Eastings					Northings				
1.083	1.056	1.051	1.038	1.009	1.269	1.247	1.237	1.162	1.139
0.996	0.976	0.973	0.967	0.963	1.086	1.072	1.048	1.022	0.990

Minimum ten values

Eastings					Northings				
-0.995	-1.015	-1.016	-1.025	-1.027	-1.000	-1.047	-1.054	-1.069	-1.080
-1.082	-1.091	-1.093	-1.124	-1.124	-1.086	-1.096	-1.097	-1.102	-1.108

Maximum speeds

1.696	1.672	1.658	1.594	1.531	1.523	1.522	1.511	1.510	1.508
1.495	1.494	1.480	1.433	1.414	1.404	1.374	1.371	1.367	1.366
1.356	1.355	1.354	1.353	1.352	1.349	1.341	1.341	1.339	1.328
1.321	1.319	1.318	1.318	1.313	1.311	1.308	1.304	1.303	1.295
1.293	1.288	1.286	1.284	1.283	1.282	1.281	1.278	1.273	1.273
1.271	1.268	1.267	1.264	1.263	1.259	1.258	1.258	1.256	1.253
1.252	1.251	1.250	1.250	1.248	1.246	1.244	1.243	1.241	1.241
1.240	1.238	1.238	1.234	1.234	1.233	1.232	1.232	1.229	1.227
1.227	1.225	1.224	1.224	1.224	1.222	1.222	1.221	1.221	1.221
1.220	1.220	1.219	1.219	1.219	1.218	1.218	1.217	1.216	1.216

Variance ellipse statistics

Maximum variance 0.4344E+00 Direction -44.1

Minimum variance 0.4348E-02 Direction 45.9

Total variance 0.4388E+00 Ratio of variances 0.1001E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -2.0

Average direction. maxdir +PI/2 to maxdir -PI/2 186.6

Statistics for dp0009.00576s6f

Doppler bin number 6

	Mean	Variance	Standard deviation
Eastings	-0.0701	0.34720700E-02	0.58924273E-01
Northings	0.0172	0.23063130E-02	0.48024088E-01
Speed	0.0854	0.36800213E-02	0.60663179E-01

Vector mean speed 0.0722

Vector Mean Direction -76.2

Maximum ten values

Eastings					Northings				
0.019	0.014	0.008	0.007	0.007	0.154	0.148	0.139	0.118	0.112
0.005	0.003	-0.002	-0.003	-0.006	0.084	0.072	0.069	0.067	0.067

Minimum ten values

Eastings					Northings				
-0.135	-0.136	-0.137	-0.139	-0.173	-0.036	-0.042	-0.044	-0.046	-0.050
-0.187	-0.210	-0.228	-0.239	-0.246	-0.055	-0.056	-0.060	-0.062	-0.063

Maximum speeds

0.287	0.284	0.257	0.252	0.206	0.200	0.161	0.151	0.151	0.150
0.150	0.147	0.146	0.141	0.136	0.129	0.127	0.113	0.106	0.100
0.099	0.099	0.098	0.097	0.096	0.095	0.094	0.093	0.086	0.084
0.079	0.079	0.071	0.070	0.066	0.065	0.063	0.063	0.062	0.061
0.061	0.058	0.057	0.056	0.055	0.055	0.055	0.055	0.055	0.053
0.051	0.051	0.050	0.049	0.048	0.048	0.048	0.046	0.046	0.045
0.044	0.044	0.043	0.042	0.041	0.039	0.039	0.038	0.036	0.034
0.034	0.034	0.033	0.025	0.024	0.024	0.021	0.007		

Variance ellipse statistics

Maximum variance	0.5594E-02	Direction	-51.2
Minimum variance	0.1839E-03	Direction	38.8
Total variance	0.5778E-02	Ratio of variances	0.3288E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 -17.8

Average direction. maxdir +PI/2 to maxdir -PI/2 233.2

Rig information details for 00583

Position Latitude	: 54 52.25N
Position Longitude	: 05 12.33W
Water depth	: 64.0 m
Deployed on cruise	: C106
Recovered on cruise	: C107
Site name identification	: GA
Magnetic deviation	: 7.2 degrees west
Rig deployed on	: 19-SEP-93 10:10:00
Rig recovered on	: 01-NOV-93 12:58:00
Period of deployment	: 43.1 days
Comments	: Launch and recovery successful

Meter information details for 0007

Rig No	:	00583
Meter No	:	0007
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Meter type	:	DP
Comments	:	Compass flooded + timing channels corrupted + gaps

Rig information details for 00585

Position Latitude	: 54 59.83N
Position Longitude	: 05 29.96W
Water depth	: 139.0 m
Deployed on cruise	: C106
Recovered on cruise	: C107
Site name identification	: HA
Magnetic deviation	: 6.9 degrees west
Rig deployed on	: 20-SEP-93 10:55:00
Rig recovered on	: 31-OCT-93 13:13:00
Period of deployment	: 41.1 days
Comments	: Launch and recovery successful

Meter information details for 0394

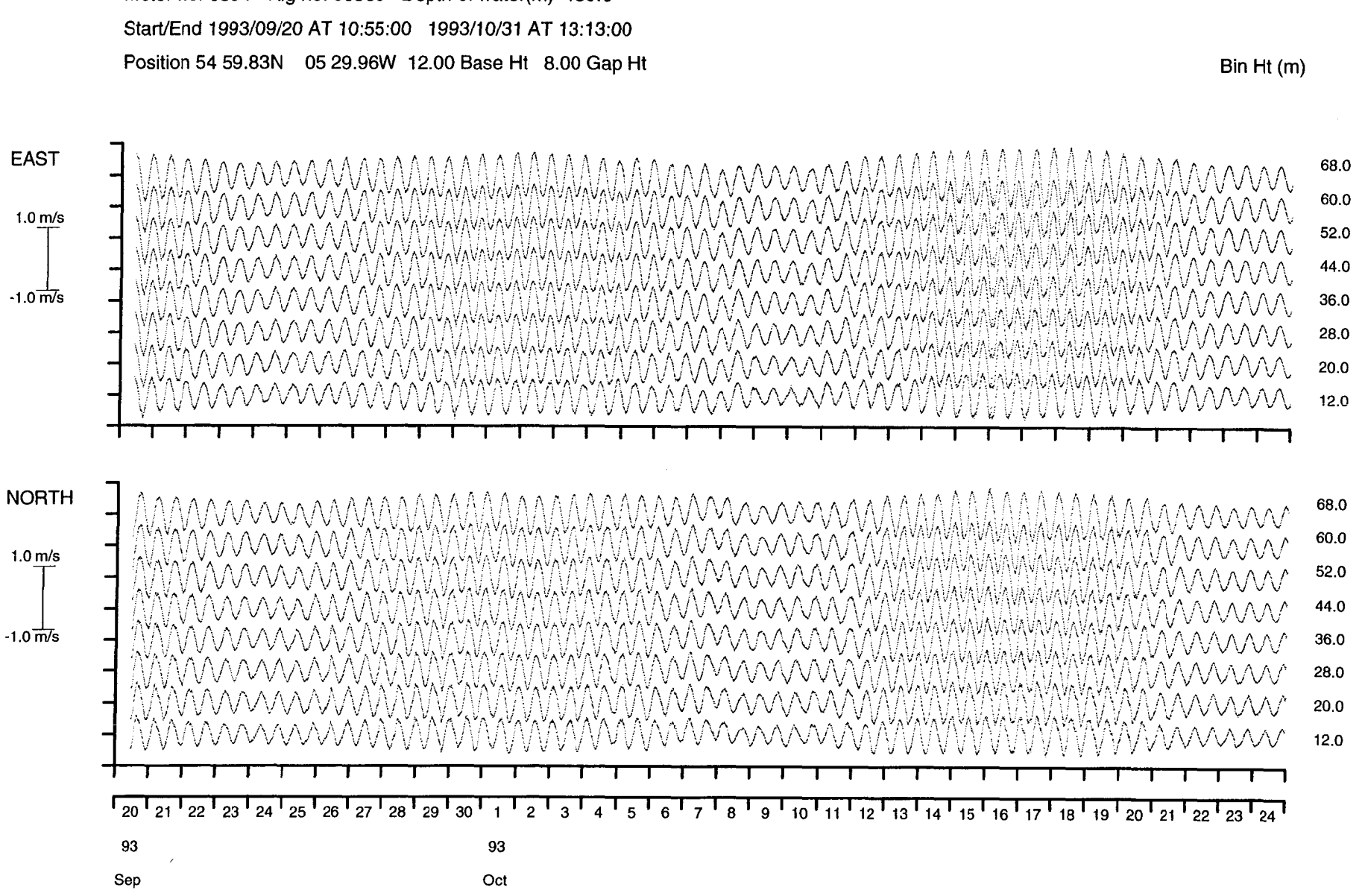
Rig No	:	00585
Meter No	:	0394
Recording interval	:	600.0 seconds
Meter height from bottom	:	2.0 m
Meter type	:	RD
Meter started	:	20-SEP-93 10:50:00
Time of last valid scan	:	31-OCT-93 13:00:00
Period of good data	:	41.1 days
Total number of scans	:	5915
Timing error	:	None
Comments	:	Good record obtained

VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

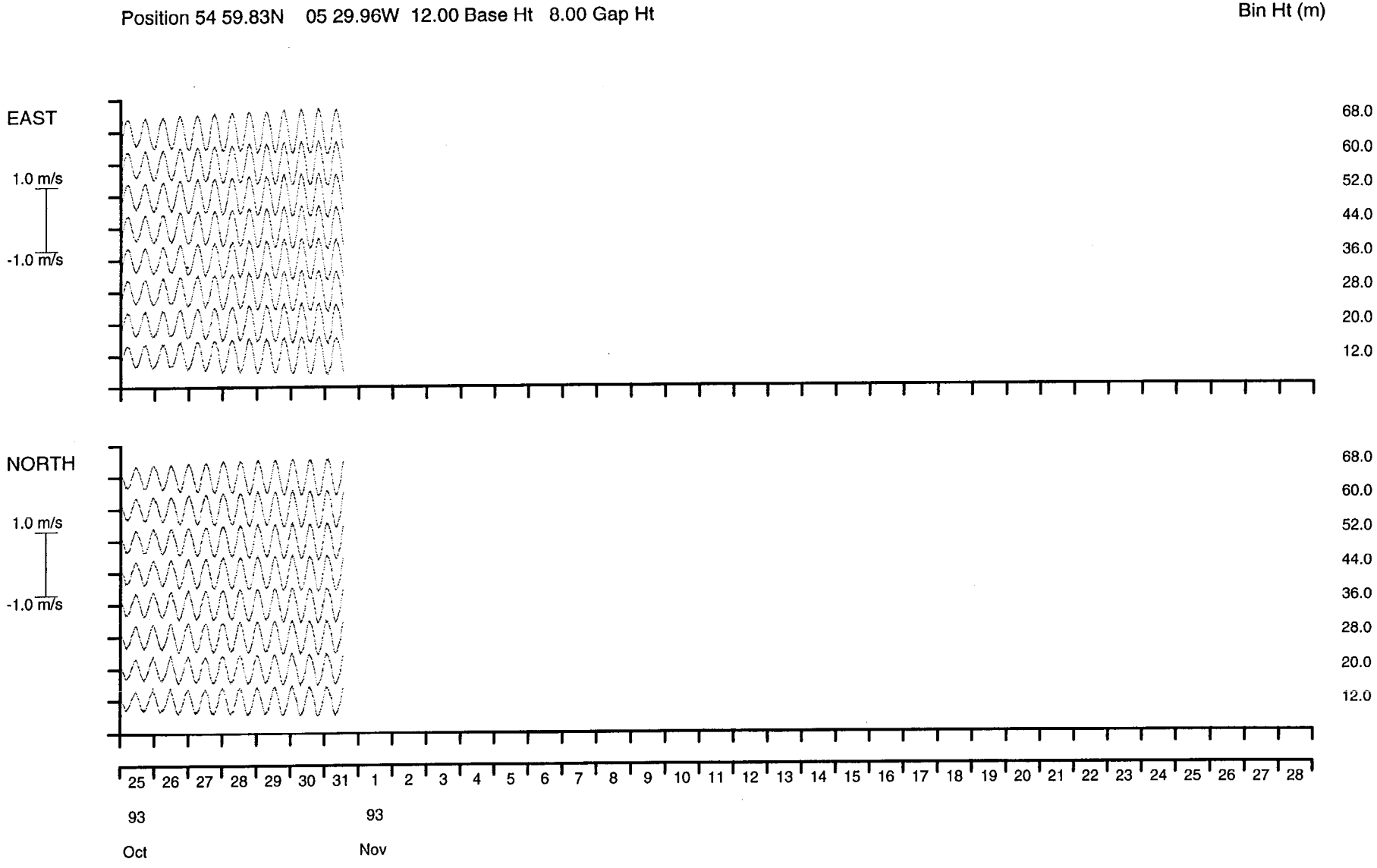


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

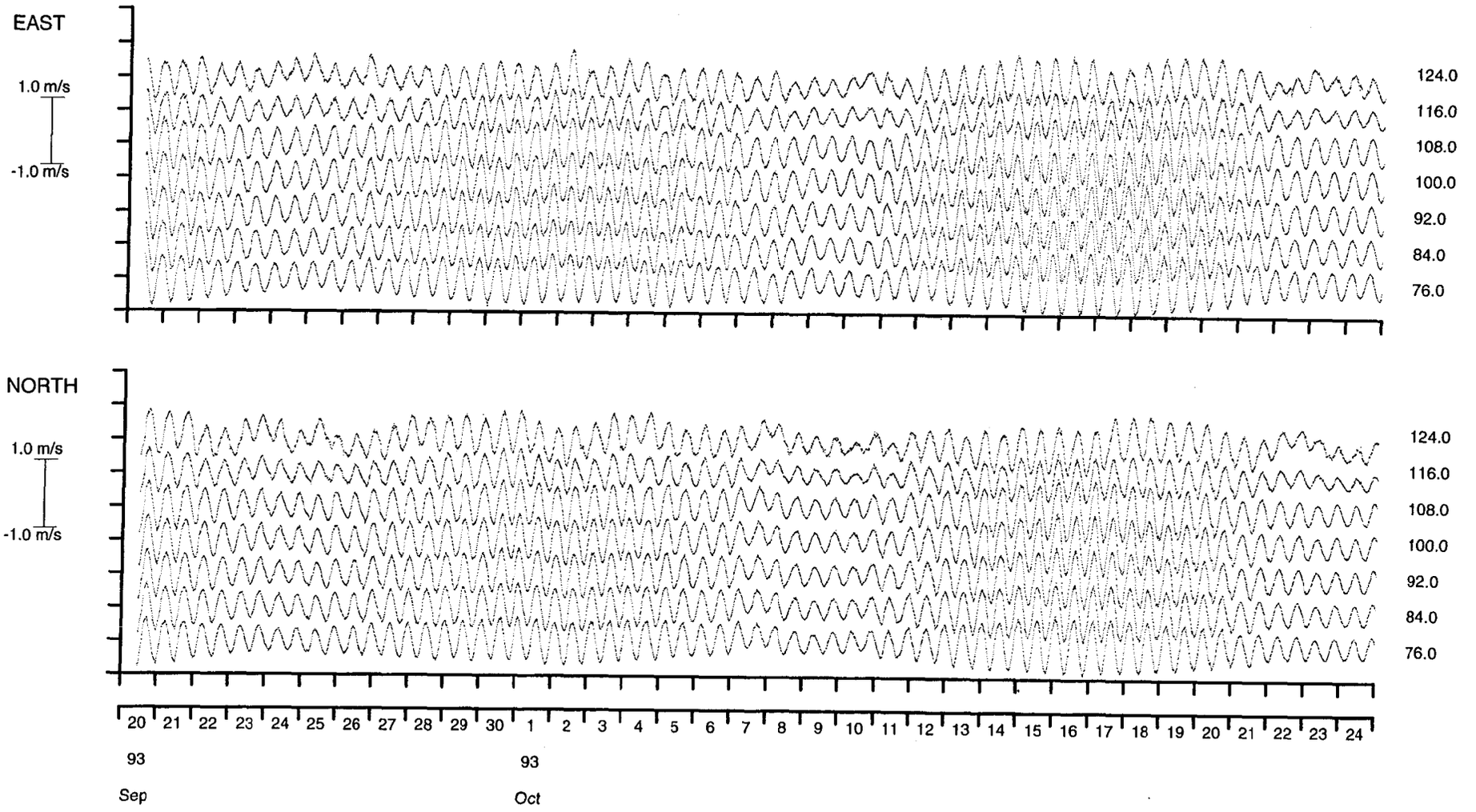


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

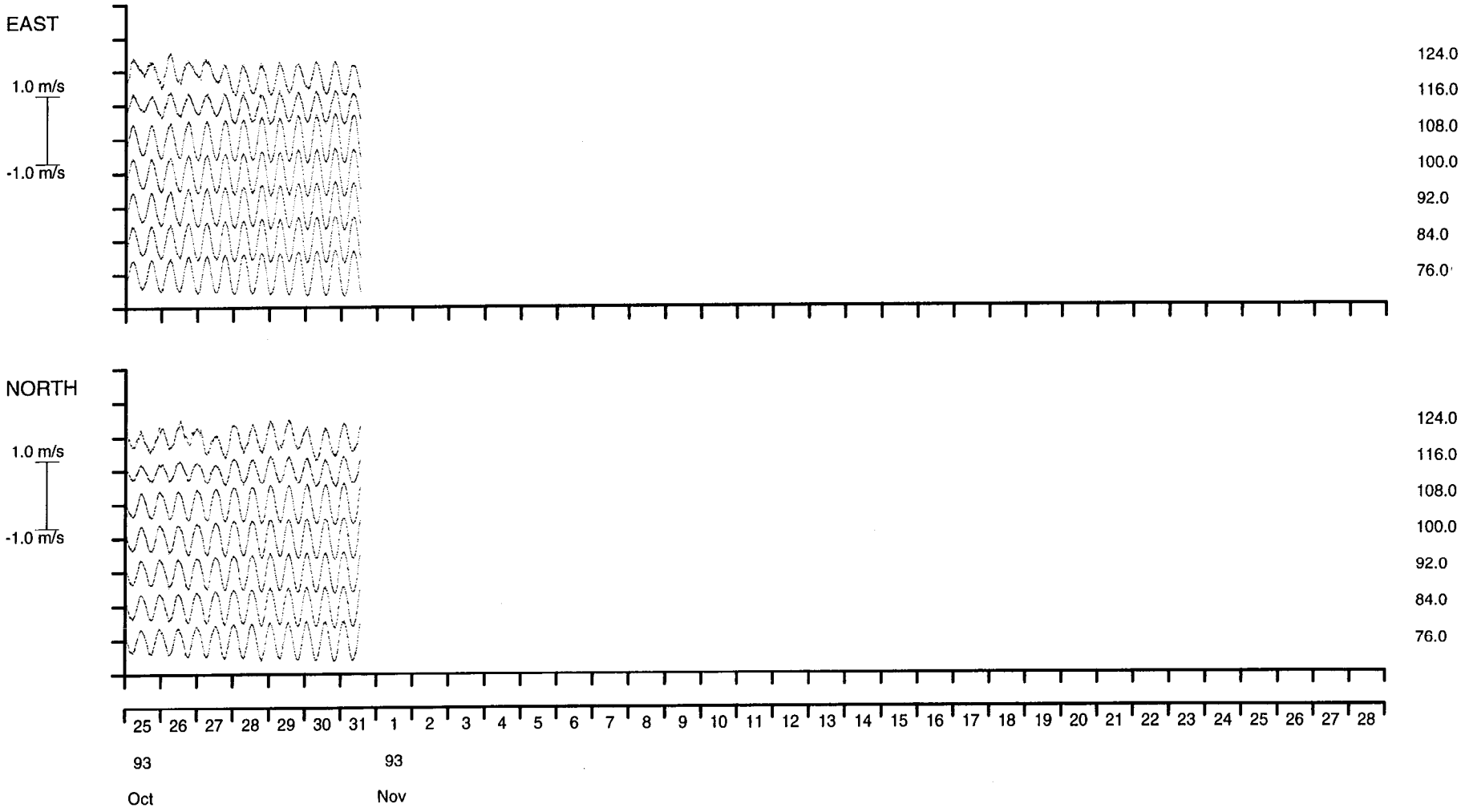


VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

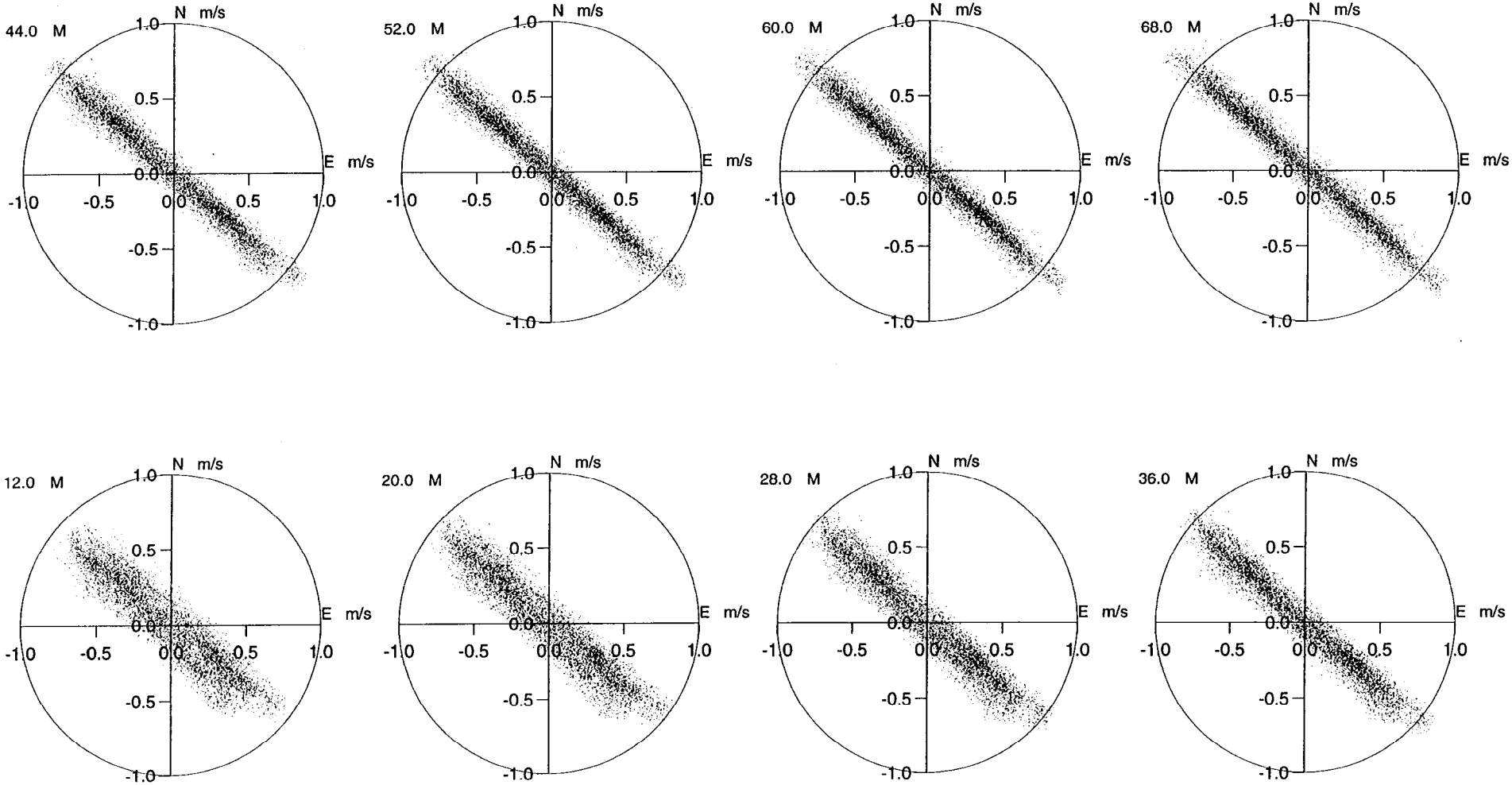


SCATTER PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

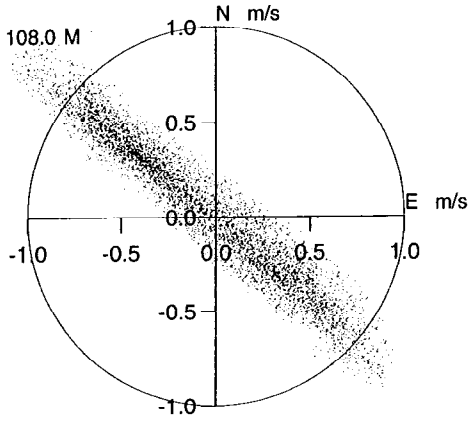


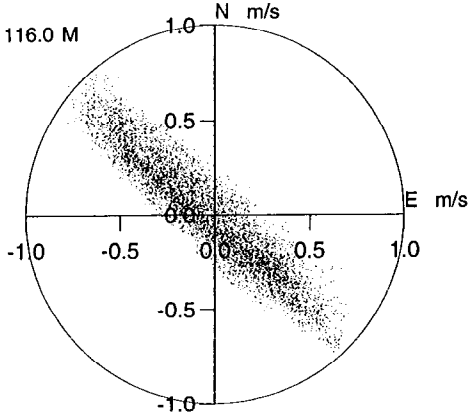
SCATTER PLOT

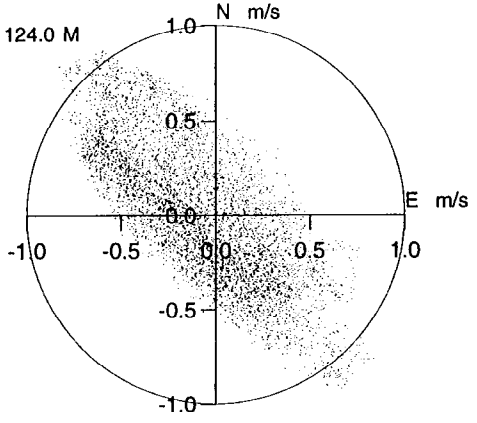
Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

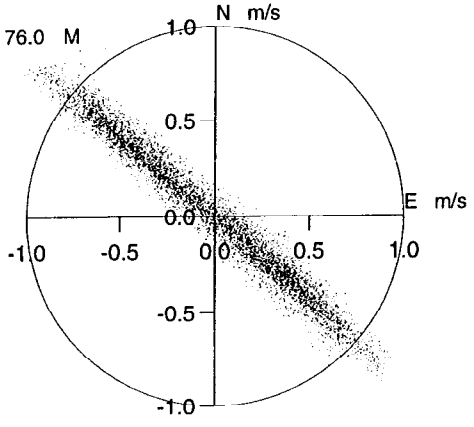
Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

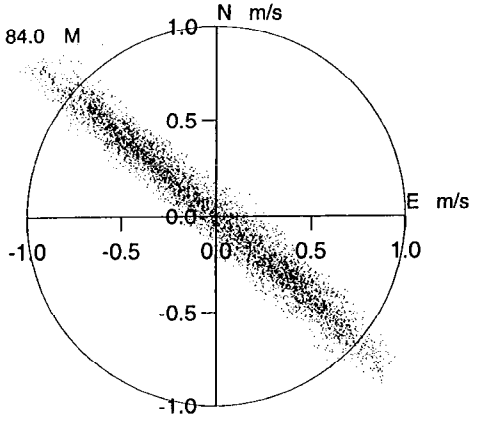
Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

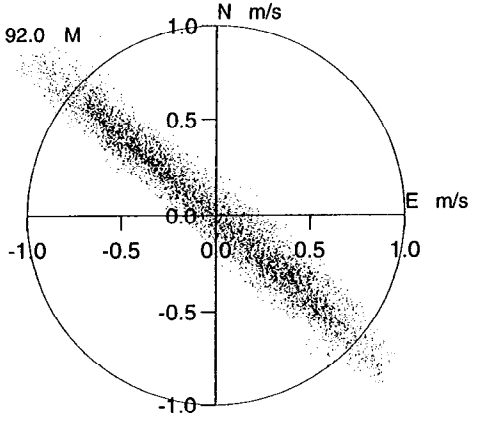


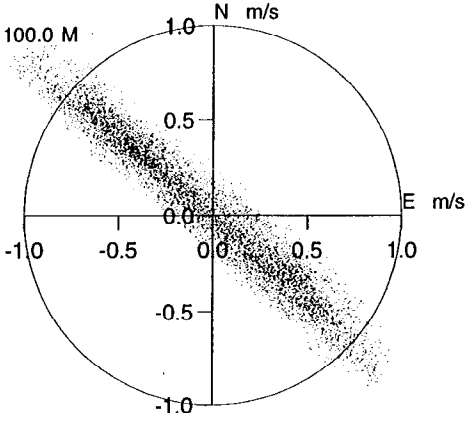












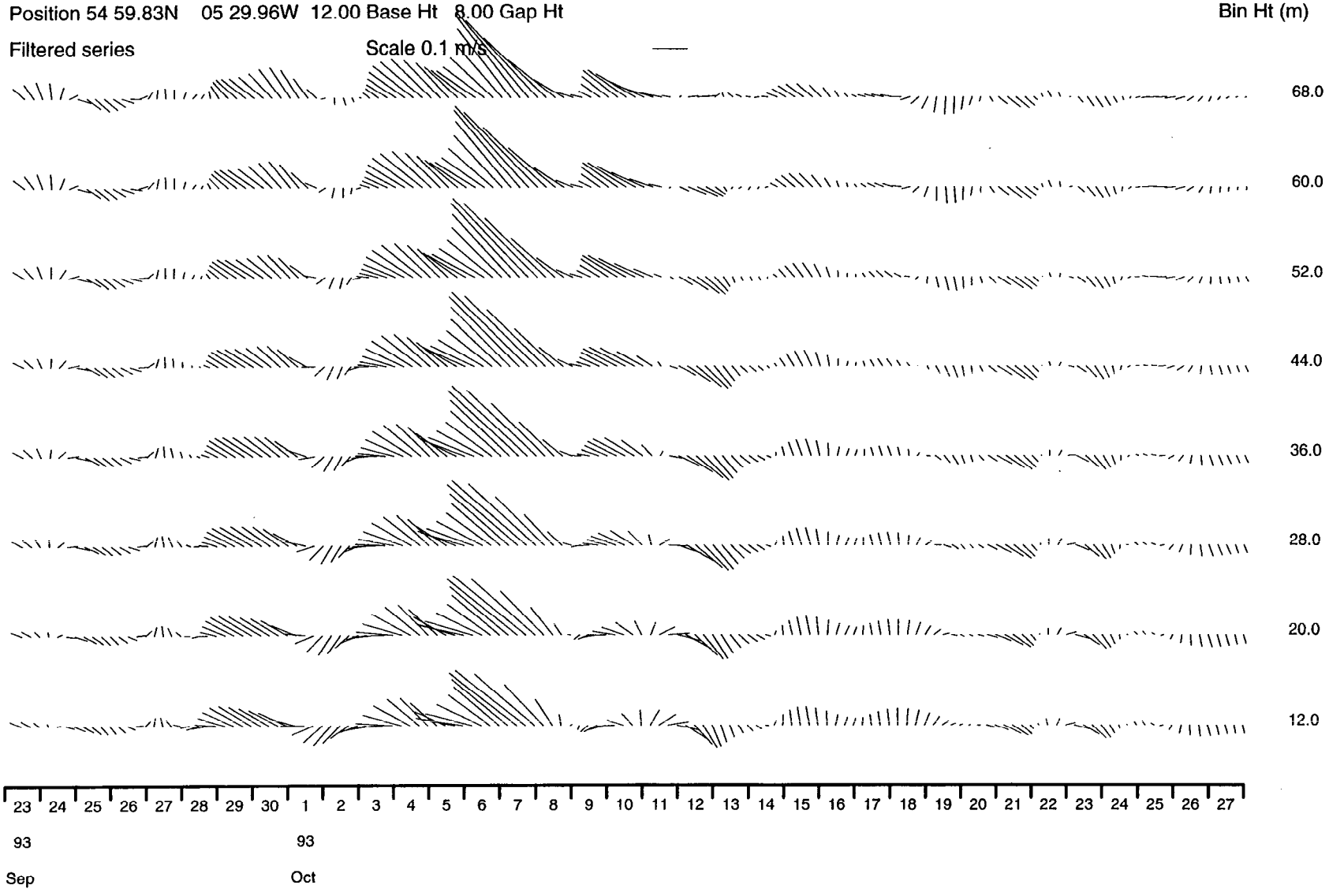
STICK TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

Filtered series Scale 0.1 m/s



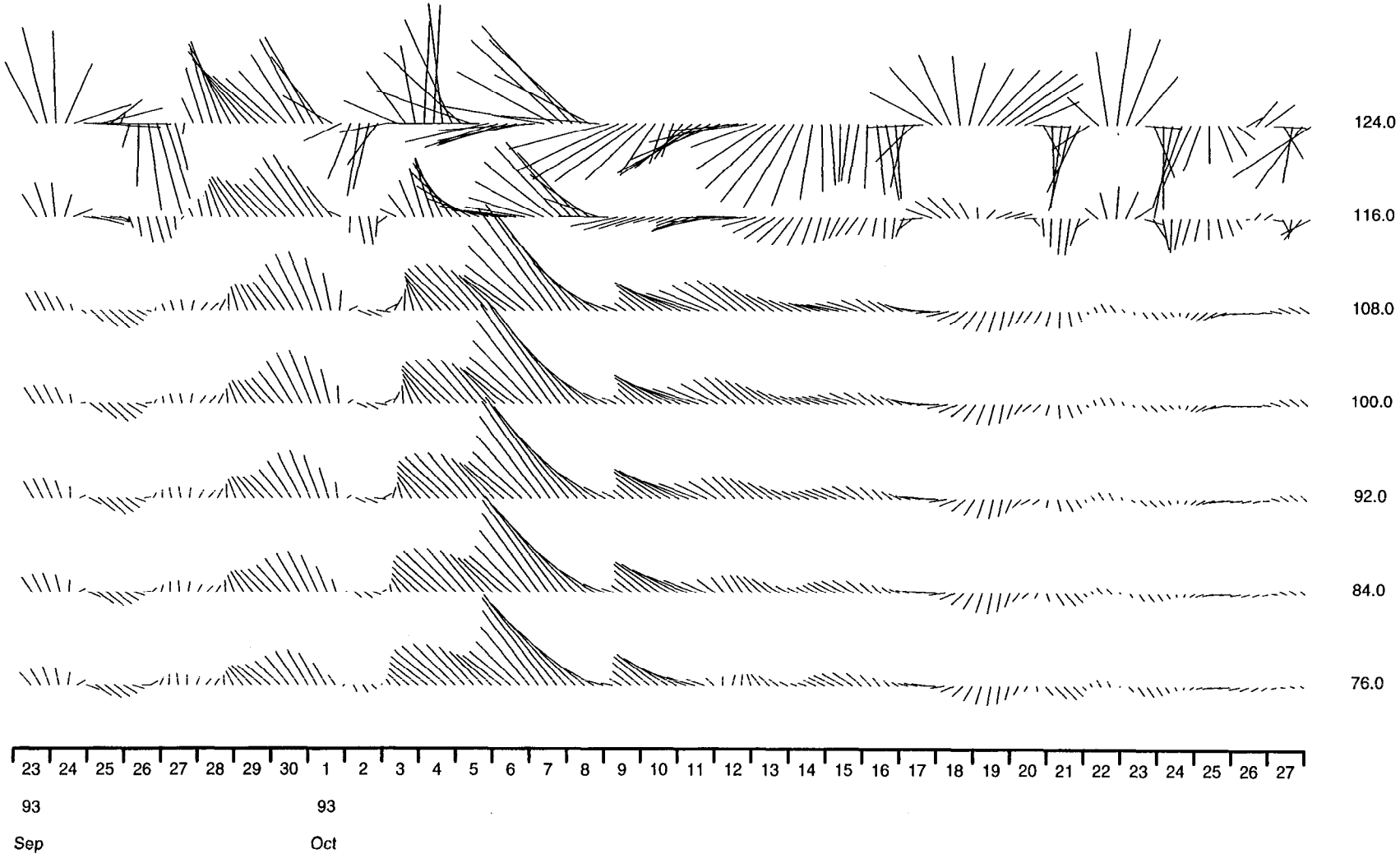
STICK TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht

Filtered series Scale 0.1 m/s



Statistics for rd0394.00585

Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	12.0	0.022	-65.0	0.1986	-49.1	0.0065	40.9
2	20.0	0.021	-63.3	0.2281	-48.8	0.0054	41.2
3	28.0	0.022	-62.1	0.2491	-48.7	0.0040	41.3
4	36.0	0.023	-62.1	0.2660	-48.6	0.0030	41.4
5	44.0	0.026	-61.2	0.2808	-48.7	0.0022	41.3
6	52.0	0.028	-60.0	0.2941	-48.8	0.0018	41.2
7	60.0	0.031	-58.0	0.3063	-48.9	0.0018	41.1
8	68.0	0.035	-55.6	0.3163	-49.0	0.0020	41.0
9	76.0	0.038	-54.1	0.3247	-49.2	0.0023	40.8
10	84.0	0.043	-53.1	0.3320	-49.3	0.0029	40.7
11	92.0	0.046	-52.5	0.3380	-49.3	0.0036	40.7
12	100.0	0.050	-53.3	0.3440	-49.5	0.0045	40.5
13	108.0	0.052	-54.5	0.3518	-49.8	0.0055	40.2
14	116.0	0.047	-79.2	0.1795	-47.3	0.0056	42.7
15	124.0	0.077	-93.5	0.2095	-43.3	0.0288	46.7

Statistics for rd0394.00585

Filtered Statistics
For all good data bins

ADCP Bin Number	ADCP Bin Height	Vector Mean Speed	Vector Mean Direction	Maximum Variance	Direction of Maximum Variance	Minimum Variance	Direction of Minimum Variance
1	12.0	0.024	-62.0	0.0038	-56.4	0.0007	33.6
2	20.0	0.023	-59.3	0.0044	-55.2	0.0006	34.8
3	28.0	0.024	-57.6	0.0048	-53.5	0.0004	36.5
4	36.0	0.026	-57.0	0.0051	-51.5	0.0003	38.5
5	44.0	0.029	-55.8	0.0053	-49.8	0.0002	40.2
6	52.0	0.032	-54.8	0.0053	-48.1	0.0002	41.9
7	60.0	0.036	-52.9	0.0052	-46.5	0.0002	43.5
8	68.0	0.040	-51.3	0.0050	-44.9	0.0003	45.1
9	76.0	0.044	-50.2	0.0050	-43.4	0.0003	46.6
10	84.0	0.049	-49.8	0.0053	-41.9	0.0004	48.1
11	92.0	0.054	-49.7	0.0056	-41.3	0.0005	48.7
12	100.0	0.057	-50.8	0.0060	-41.3	0.0007	48.7
13	108.0	0.060	-52.2	0.0065	-41.5	0.0009	48.5
14	116.0	0.046	-76.0	0.0065	-39.0	0.0024	51.0
15	124.0	0.069	-93.6	0.0240	0.8	0.0151	90.8

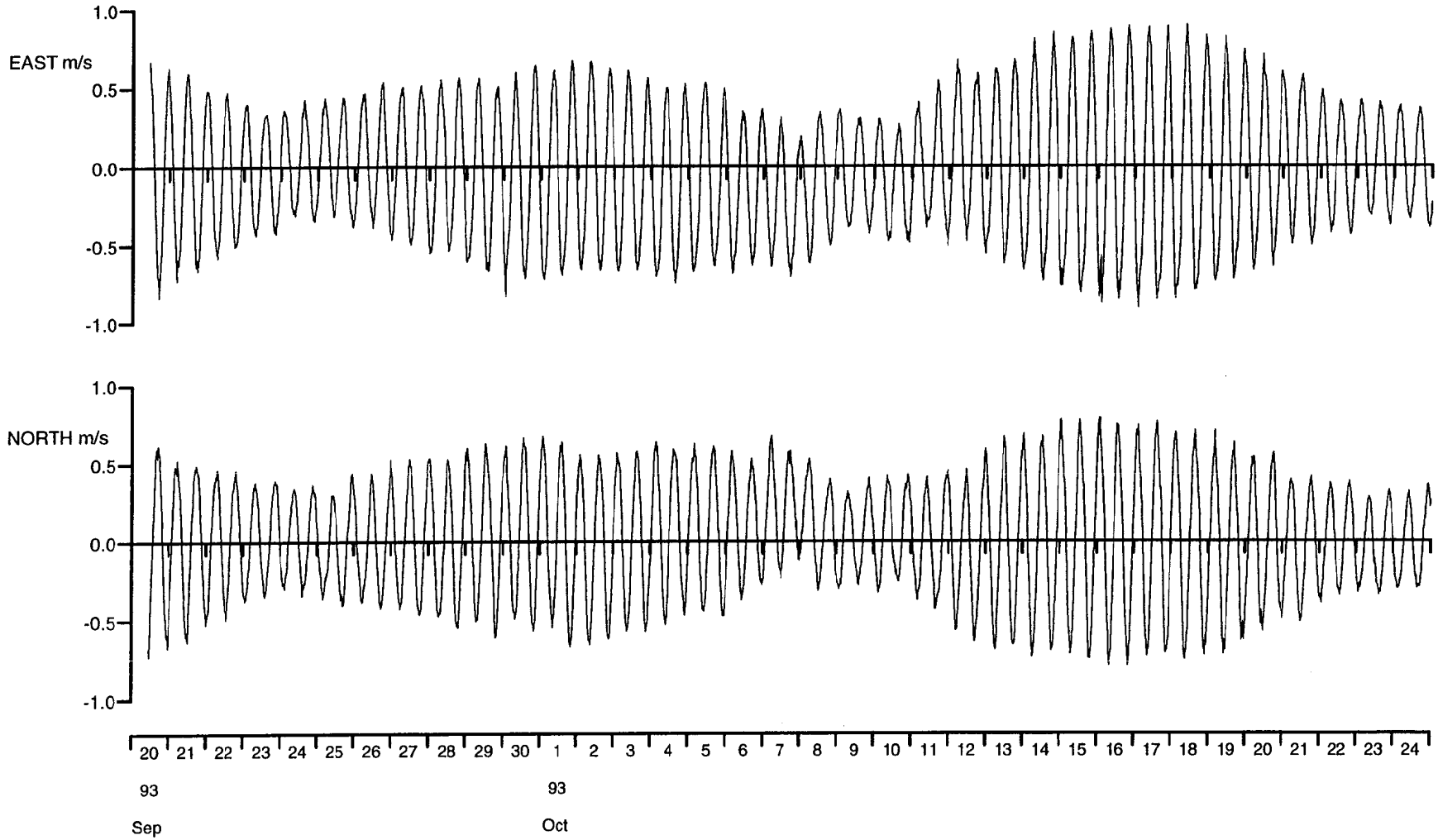
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht 52.0 Bin Ht (m)

Bin closest to depth average



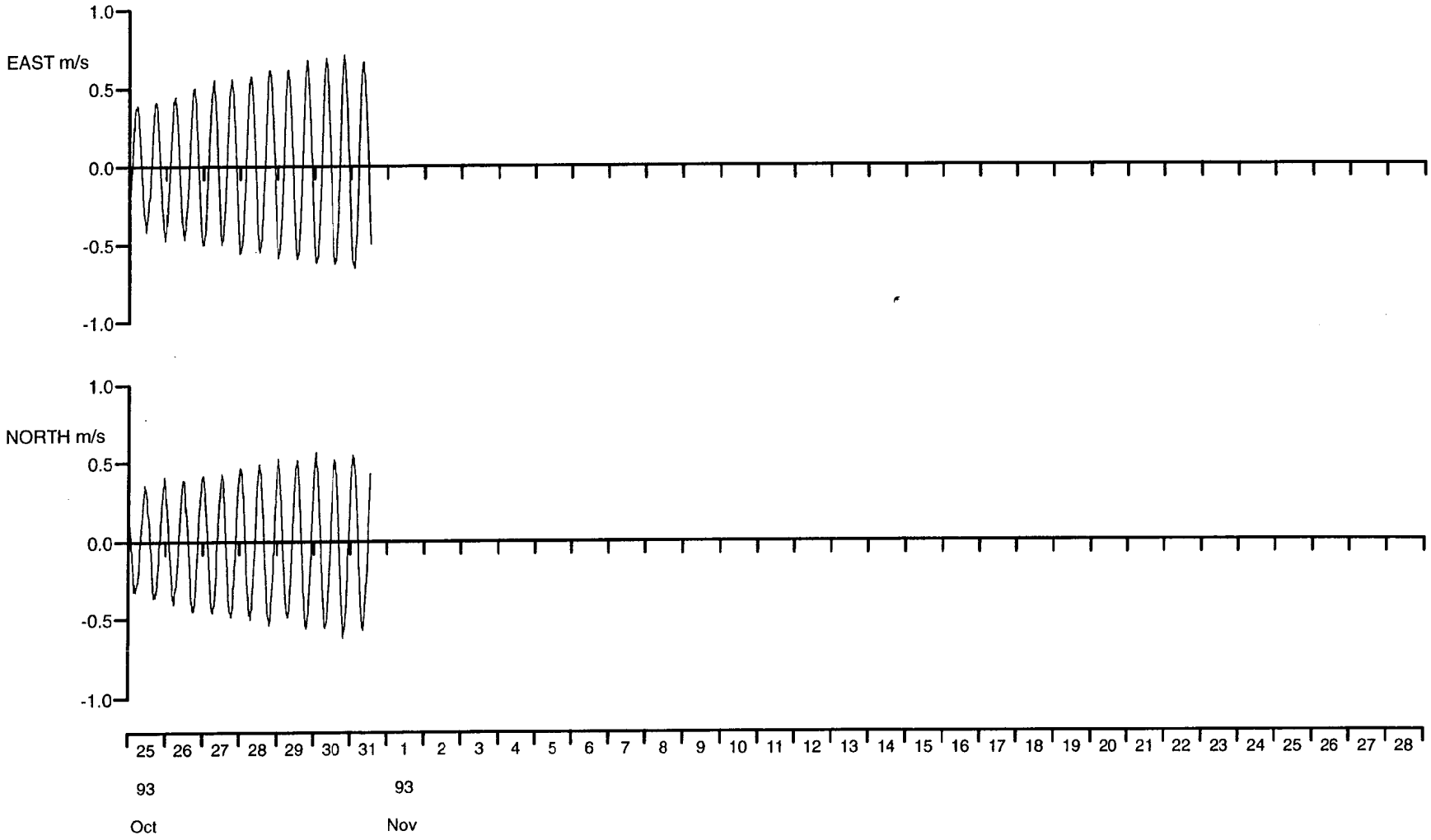
VELOCITY COMPONENT TIME SERIES PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht 52.0 Bin Ht (m)

Bin closest to depth average



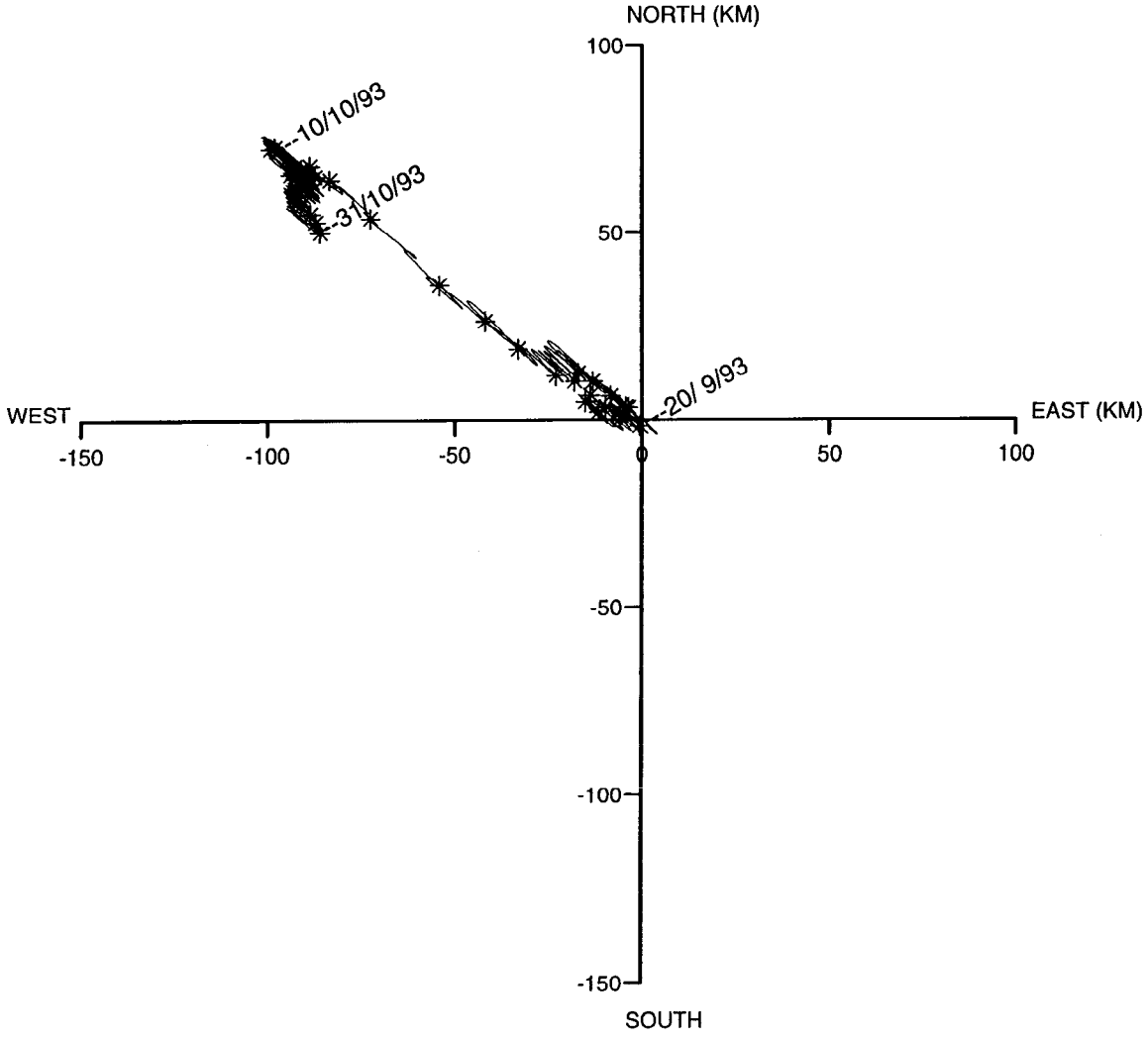
VECTOR PLOT

Meter no. 0394 Rig no. 00585 Depth of water(m) 139.0

Start/End 1993/09/20 AT 10:55:00 1993/10/31 AT 13:13:00

Position 54 59.83N 05 29.96W 12.00 Base Ht 8.00 Gap Ht 52.0 Bin Ht (m)

Bin closest to depth average



Statistics for rd0394.00585s6

Doppler bin number 6

	Mean	Variance	Standard deviation
Eastings	-0.0246	0.16720691E+00	0.40890941E+00
Northings	0.0142	0.12877461E+00	0.35885179E+00
Speed	0.4750	0.71125329E-01	0.26669332E+00

Vector mean speed 0.0284

Vector Mean Direction -60.0

Maximum ten values

Eastings					Northings				
0.898	0.891	0.889	0.888	0.883	0.789	0.789	0.779	0.776	0.775
0.876	0.876	0.871	0.871	0.871	0.774	0.773	0.766	0.765	0.764

Minimum ten values

Eastings					Northings				
-0.844	-0.845	-0.847	-0.848	-0.852	-0.745	-0.748	-0.749	-0.750	-0.753
-0.854	-0.854	-0.866	-0.875	-0.907	-0.756	-0.764	-0.765	-0.790	-0.790

Maximum speeds

1.169	1.168	1.156	1.154	1.151	1.149	1.144	1.140	1.138	1.137
1.132	1.131	1.127	1.126	1.125	1.125	1.125	1.122	1.121	1.121
1.120	1.117	1.115	1.115	1.113	1.112	1.112	1.108	1.107	1.107
1.106	1.106	1.104	1.104	1.102	1.102	1.101	1.100	1.100	1.100
1.100	1.099	1.098	1.097	1.097	1.097	1.096	1.096	1.096	1.096
1.096	1.096	1.092	1.092	1.092	1.091	1.091	1.091	1.089	1.088
1.087	1.087	1.086	1.086	1.085	1.085	1.081	1.081	1.080	1.079
1.078	1.077	1.076	1.072	1.071	1.071	1.071	1.069	1.066	1.065
1.065	1.065	1.061	1.060	1.058	1.057	1.057	1.056	1.055	1.054
1.053	1.053	1.053	1.053	1.051	1.051	1.050	1.049	1.048	1.048

Variance ellipse statistics

Maximum variance	0.2941E+00	Direction	-48.8
Minimum variance	0.1850E-02	Direction	41.2
Total variance	0.2960E+00	Ratio of variances	0.6289E-02

Average direction. maxdir -PI/2 to maxdir +PI/2 0.1

Average direction. maxdir +PI/2 to maxdir -PI/2 181.2

Statistics for rd0394.00585s6f

Doppler bin number 6

	Mean	Variance	Standard deviation
Eastings	-0.0264	0.30405645E-02	0.55141315E-01
Northings	0.0187	0.24923990E-02	0.49923930E-01
Speed	0.0566	0.33599602E-02	0.57965163E-01

Vector mean speed 0.0324

Vector Mean Direction -54.8

Maximum ten values

Eastings					Northings				
0.063	0.057	0.055	0.048	0.047	0.221	0.208	0.207	0.177	0.166
0.041	0.039	0.039	0.038	0.037	0.140	0.109	0.106	0.096	0.091

Minimum ten values

Eastings					Northings				
-0.121	-0.124	-0.126	-0.129	-0.140	-0.032	-0.034	-0.034	-0.035	-0.037
-0.164	-0.173	-0.194	-0.207	-0.213	-0.038	-0.040	-0.041	-0.047	-0.049

Maximum speeds

0.307	0.292	0.284	0.241	0.240	0.198	0.167	0.166	0.150	0.147
0.141	0.141	0.138	0.129	0.126	0.124	0.123	0.118	0.117	0.115
0.115	0.100	0.097	0.096	0.095	0.093	0.093	0.092	0.091	0.090
0.089	0.084	0.080	0.079	0.075	0.073	0.068	0.065	0.064	0.061
0.059	0.059	0.058	0.056	0.055	0.051	0.049	0.049	0.048	0.047
0.045	0.044	0.044	0.044	0.042	0.042	0.041	0.041	0.041	0.041
0.040	0.040	0.040	0.040	0.039	0.039	0.039	0.038	0.037	0.037
0.035	0.035	0.034	0.034	0.034	0.033	0.033	0.032	0.031	0.031
0.031	0.030	0.029	0.029	0.028	0.028	0.028	0.027	0.027	0.026
0.026	0.026	0.025	0.025	0.025	0.024	0.024	0.023	0.023	0.022

Variance ellipse statistics

Maximum variance	0.5317E-02	Direction	-48.1
Minimum variance	0.2161E-03	Direction	41.9
Total variance	0.5533E-02	Ratio of variances	0.4065E-01

Average direction. maxdir -PI/2 to maxdir +PI/2 4.0

Average direction. maxdir +PI/2 to maxdir -PI/2 192.4

Rig information details for 00586

Position Latitude	:	54 59.59N
Position Longitude	:	05 29.93W
Water depth	:	138.0 m
Deployed on cruise	:	C106
Recovered on cruise	:	C107
Site name identification	:	HB
Magnetic deviation	:	7.2 degrees west
Rig deployed on	:	20-SEP-93 11:00:00
Rig recovered on	:	31-OCT-93 12:20:00
Period of deployment	:	41.1 days
Comments	:	Launch and recovery successful

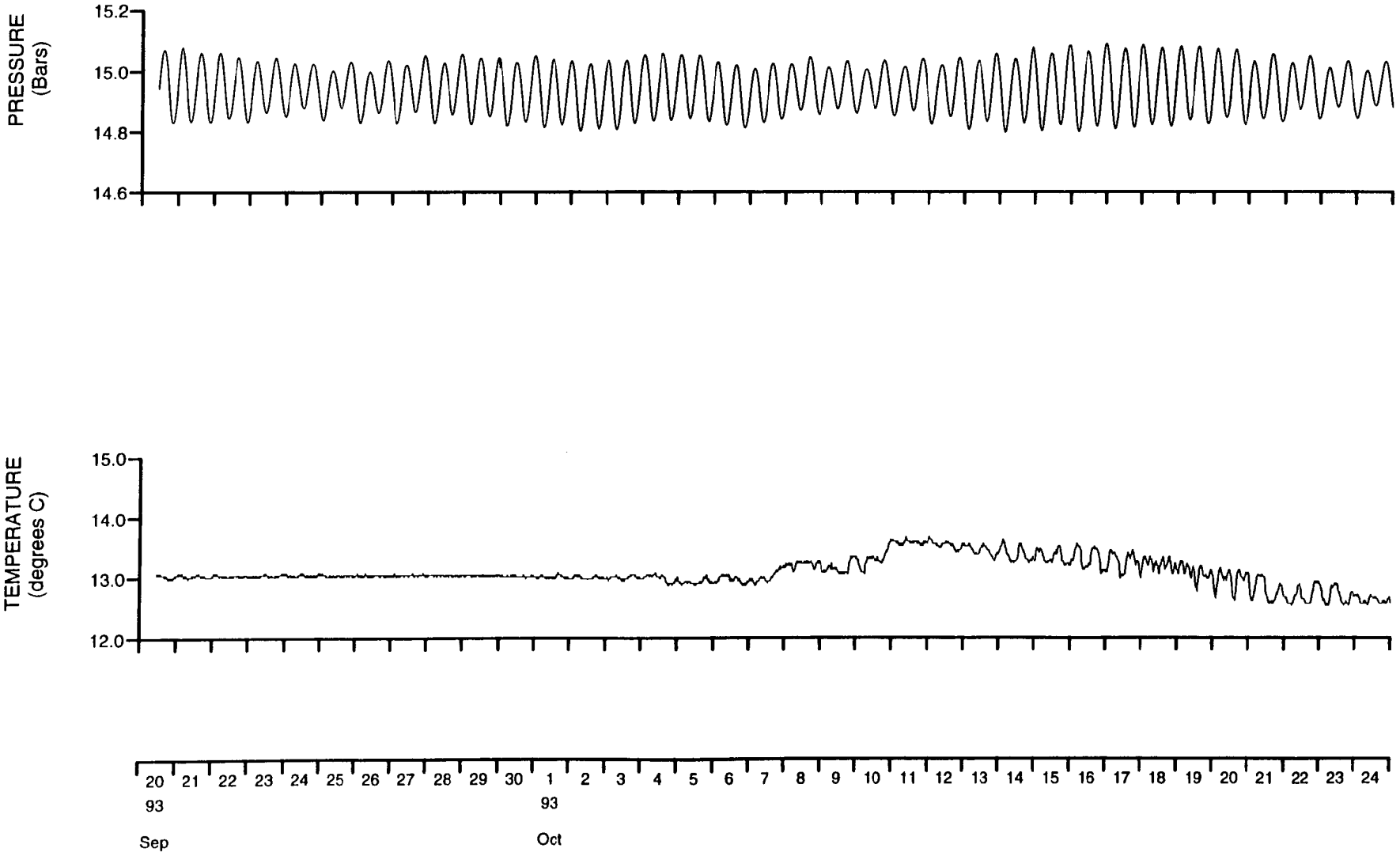
Meter information details for 0445

Rig No	:	00586
Meter No	:	0445
Recording interval	:	600.0 seconds
Meter height from bottom	:	0.8 m
Position of meter on rig	:	A
Meter type	:	WR
Meter started	:	20-SEP-93 07:40:00
Meter stopped	:	01-NOV-93 17:00:50
Period switched on	:	42.4 days
Period of good data	:	41.1 days
Total number of scans	:	5912
Timing error	:	50 seconds slow
Comments	:	Switch on time of 07:30 given and not time of first scan First scan assumed to be at 07:40

Meter no. 0445 Rig no. 00586 Depth of water(m) 138.0

Start/End 1993/09/20 AT 11:00:00 1993/10/31 AT 12:20:00

Position 54 59.59N 05 29.93W Meter Height(m) 0.8



Meter no. 0445 Rig no. 00586 Depth of water(m) 138.0

Start/End 1993/09/20 AT 11:00:00 1993/10/31 AT 12:20:00

Position 54 59.59N 05 29.93W Meter Height(m) 0.8